



(Date Received by DNS _____)

Department of Neighborhood Services Façade Report Application

Address of Building: 901 North 9th Street TaxKey 3910103110

Name of Owner/Agent: Milwaukee County Department of Administrative Services

Address/City/Zip: 901 North 9th Street, Courthouse Room 308, Milwaukee, WI 53233

Contact Person: Gary Waszak Phone: 414-278-5056

Signature of Owner or Owner's Agent _____

(See sec. 275-32-13 of Milw. Code of Ordin. Vol. II for definitions and reporting requirements)

BUILDING CONDITION

_____ SAFE
X SAFE WITH AN ORDINARY REPAIR AND MAINTENANCE PROGRAM
_____ UNSAFE
_____ UNSAFE AND IMMINENTLY HAZARDOUS. Notify DNS by phone at (414) 286-3154, (414) 286-3862, or (414) 286-2548 within 24 hours. Indicate where this condition exists on the façade and what safety precautions have been provided.
Name of DNS employee contacted: _____ Date of Contact: _____

BUILDING DESCRIPTION

Date of the Report: November 30th, 2016 Occupancy of Building: Assembly - Courthouse

No. of stories: 9 Year Built: 1930

Description of Exterior Walls (check all that apply)

Brick X Terra Cotta _____ Stone X Concrete _____ Stucco _____ Concrete Block _____

Glass _____ Windows X Metal X Soffit _____ Cornice X EFIS _____

Category I: _____ Category II _____ Category III X Category IV _____

(See section 275-32-13-c for definition of category types)

LICENSED PROFESSIONAL

Name: Todd A. Gorrell, R.A. Firm Name: Klein and Hoffman, Inc.

Address: 150 South Wacker Drive, Suite 1900 City: Chicago

State: IL Zip 60606

Professional Seal and Signature:

Phone: 312-251-1900

Fax: 888-667-8922

E mail: tgorrell@kleinandhoffman.com

The following is additional information required to be part of the report per sec. 275-32-13-h:

- A site plan of the building showing adjacent streets and alleys, and relationship of the building to property lines and adjacent buildings.
- A description of the building, including the number of stories, height, plan dimensions, age and type of exterior wall construction, describing (as applicable) cornices, soffits or similar overhangs or features.
- Overall photographs or drawings of the 4 elevations of the building.
- A detailed description of the critical examination in narrative form, including start and completion dates.
- A designation of the building's status by the professional as stated above.
- Drawings or photographs describing the locations and extent of all significant distress or deteriorated conditions observed in the facades.
- A description of recommended repair work and precautionary measures that will be taken to safeguard the public, if any, and the recommended completion date of such work.
- Where appropriate, a comparison of conditions of facades on the building with conditions observed during previous examinations.
- A recommendation for future examination, if earlier than 5 years from date of the report.

I. General Information

Contacts

Building Owner: Milwaukee County Department of Administrative Services

Address: 901 North Ninth Street
Courthouse Room 308
Milwaukee, Wisconsin 53233

Contact: Philip Schmidt

Telephone: 414-278-4936

Building Agent: N/A

Professional: Klein and Hoffman, Inc.

Address: 150 South Wacker Drive, Suite 1900
Chicago, Illinois 60606

Contact: David Weirick

Telephone: 312-251-1900

Building Description

Building Age: 86 Years

Façade Age: 86 Years

Stories: 9 stories

Height: 255 feet (grade level to upper penthouse parapet copings)

Plan Dimensions: 210 feet (east/west) x 435 feet (north/south)

Façade Type: Limestone with aluminum grillages, bronze entrances, and metal windows.

Cornices: Stone cornices located at the 6th floor on the main building and the 8th mezzanine level of the upper penthouses.

Soffits: Stone soffits at the 6th floor level, top of colonnades, and at arched windows above entrances at the first floor.

Site Plan

Refer to site plan and inspection plan in Appendix A.

Building Elevations

Refer to elevation drawings in Appendix B.

Review of Previous Reports

The following reports were reviewed a part of the Critical Examination:

1. City of Milwaukee Façade Ordinance / Critical Examination Report

Milwaukee County Courthouse
901 North 9th Street
Milwaukee, Wisconsin 53233

Date: December 2, 2008
By: Graef Anhalt Schloemer & Associates, Inc.

2. Façade Evaluation

Milwaukee County Courthouse
901 North 9th Street
Milwaukee, Wisconsin 53233

Date: June 8, 2010
By: Inspec

3. Summarization of Work Performed

Milwaukee County Courthouse
901 North 9th Street
Milwaukee, Wisconsin 53233

Date: December 19, 2010
By: Inspec

II. Description of Critical Examination

Contractor for the Critical Examination

Masonry Restoration Incorporated
9522 W. Schlenger Avenue
Milwaukee, Wisconsin 53214
Phone Number: (414) 259-8111
Contact: Tony Lipek

Start and Completion Date of Examination:

Start Date: August 15, 2016
Completion Date: September 20, 2016
Number of Drops: 46 scaffold drops and close-up inspection from a 185' high-reach lift.

Refer to Site/Drop Location Plan in Appendix A

Narrative Description

Close up inspections were made from a 185' high reach lift at 100% of the west elevation and the west ends of the north and south elevations. Swing-stage scaffolds were used to complete the close-up inspections at 100% of the remainder of the north and south elevations, the east elevation, and the north and south façades above the sixth-floor roof level.

Areas on the façades exhibiting visual signs of distress were sounded with metal hammers in an effort to determine the extent of distress.

Inspection drop sheets indicating areas of distress on the façades can be found in Appendix C. Representative photographs of façade conditions encountered during inspections can be found in Appendix D.

Select locations where sealant failures were observed to be widespread are depicted in Appendix E.

The extents of old and replacement built-in sheet metal gutters, as well as areas where ponding water indicate clogged roof drains are depicted in Appendix F.

Building Status Designation:

North Elevation: Safe* with an ordinary repair and maintenance program.
East Elevation: Safe* with an ordinary repair and maintenance program.
South Elevation: Safe* with an ordinary repair and maintenance program.
West Elevation: Safe* with an ordinary repair and maintenance program.

* As defined by the Façade Ordinance, Rules and Regulations, Number i-2.

III. Findings and Conclusions from the Critical Examination

- Refer also to the Critical Examination Inspection Drop Sheets in Appendix C.
- Photographs referenced below can be found in Appendix D.

A. Distressed Limestone Masonry Conditions

The majority of the 300,000+ sq. ft. limestone façades are in fair to good condition, defects in the stonework were found at random locations, they included:

1. Spalled sections of stonework had been previously removed at quite a few locations (see Photo No. 1). New spalls were removed at numerous locations during our inspections.
 - a. Approximately eight (8) small spalls were observed at the high, eighth floor, cornice. The spalls appeared random, and did not seem to suggest systemic deterioration of concealed conditions (see Photo No. 2).
 - b. Approximately sixteen (16) small to medium sized spalls were observed at the sixth floor cornice. These spalls generally correspond with areas where the sheet metal gutter does not appear to have been recently repaired or replaced. Cracked solder seams and standing water were common, suggesting that water infiltration through the gutter, into the masonry and subsequent freeze/thaw damage is the cause of the spalls (see Photo No. 3).
 - c. Approximately twenty four (24) small to medium sized spalls were observed at the ashlar base of the building – floors one through three. These spalls were concentrated below the cornice at the base of the colonnade where open wash joints were common, suggesting that water infiltration through these joints, into the masonry below, is causing corrosion of embedded metal framing and anchorages (see Photo No. 4).
 - d. Several spalls were observed at the southeast corner below the eighth floor cornice (refer to drop sheet from drop nos. 31-35). Corroded metal cramp anchors were observed after removal of the loose spalls. Building corners, in general, are exposed to the worst weathering, and are also the most susceptible to open joints cause by building movement. These factors, combined with open wash joints at the eighth floor cornice have likely contributed to water infiltration into the masonry and corrosion of embedded metal anchorages as well as freeze/thaw damage (see Photo No. 5).
 - e. Spalls were frequently observed at the stone surrounding entrances. Such spalls appear to be due to exposure to high traffic, de-icing salts, and general weathering (see Photo No. 6).

2. Separations in mortar joints, indicating ongoing movement of the stone units, is generally caused by water trapped within the walls during freeze/thaw cycles or by ongoing corrosion of embedded steel components within the walls. This condition occurs at random locations throughout the facades (see Photo Nos. 7 and 8).
 - a. This condition was especially pronounced at the parapet at the northeast corner, where coping and parapet stones have shifted due to expansion of saturated mortar joints during freeze/thaw cycles (see Photo No. 9).
 - b. This condition was observed at most corners at the eighth floor cornice. Deterioration of mortar joints and subsequent movement of stone units is normal for such locations, where exposure to weathering is most severe (see Photo No. 10).
 - c. Some horizontal (non-skyward facing) mortar joints, mainly at cornices, were observed to be sealed. Sealing of horizontal mortar joints, especially at projecting masonry, is not typically recommended because it traps moisture in the masonry (see Photo No. 11).
3. Continuous cracking, generally vertically, in stone units was found at several locations and indicates distress within the wall at those areas (see Photo Nos. 12 and 13).
 - a. At the northeast and southeast corners of the seventh through eighth floors, numerous cracked stones were observed. Cracking also extended into the brickwork below the stone. The cracking may be due to corrosion of corner steel columns, and the subsequent transfer of expansive forces into the masonry (see Photo Nos. 14 and 15).
 - b. Cracked stones were commonly observed at the bottom of the returns at the ground level arcade. The cracking may be due to corrosion of corner steel columns. Steel columns are especially susceptible to corrosion at their bases where they meet the ground, where masonry is often saturated with water for extended periods of time (see Photo No. 16).
4. Hundreds of cracked stones throughout the facades had been previously patched or repaired. Poorly matching patch material was frequently observed and no supplemental anchors were found to have been installed in the patch repairs which were removed during inspections. Defective patches were removed at numerous locations (see Photo Nos. 17 and 18).
5. Crack repairs were generally in fair to good condition. Isolated locations where new cracks had developed at previously repaired cracks were observed (see Photo Nos. 19 and 20).
 - a. Previous pin and epoxy repairs of cracked stones were observed at the north and south corners of the central portion of the east elevation (refer to drop sheets from drop nos. 10 and 13a), and at various locations along the sixth floor cornice. The repairs appeared to be in good condition (see Photo Nos. 21 and 22).

6. Cracked stones were observed at several locations at the base of columns at the fourth floor colonnade. The cracking appears to be due to differential movement due to the great weight of the columns (see Photo No. 23).
7. Previous limestone cleaning efforts with harsh acidic cleaning materials have resulted in damage to the outer finished face of the stonework at numerous locations (see Photo No. 24). Rust staining of large portions of the stonework on the east elevation is the result of cleaning with harsh chemicals which reacted with the iron deposits in the stone. The surface of such stones was generally stable, however a small amount of flaking and delaminating surface was removed where observed (see Photo No. 25).
8. Some areas of surface erosion were observed at the south side of the east elevation. This erosion appears to be due to localized severe weathering. Such surfaces were generally stable, but loose material was removed where observed (see Photo No. 26).
9. The mortar joints in the stonework on the façades are generally in fair condition (see Photo No. 27).
 - a. Isolated deteriorated mortar joints were observed throughout the façades. Failed mortar joints were frequently observed at stacked joints at the corners of pilasters, corners of the ground level arcade, and projecting masonry (see Photo Nos. 28, 29, and 30).
 - b. During what appears to be the most recent tuck pointing effort on the west elevation, no attempt was made to match the existing mortar color. The joints appear to be repointed with an almost white mortar, which stands out noticeably (see Photo No. 31). This may be the same material that was used to patch cracks in the stone units.
10. At the south side of the east elevation, deterioration of the stone surface at the underside of the sixth floor cornice was observed. The deterioration appeared to be superficial, and is likely related to past water infiltration through the sheet metal gutter directly above. Loose surface material was removed where observed (see Photo No. 32).
11. Significant deterioration of stonework was observed at building entrances. Cracks, spalls, open mortar joints, and surface erosion were observed at these locations. Separation of mortar joints and stone displacement at the base of the stone piers flanking the revolving door entrances suggests corrosion of underlying steel framing (see Photo No. 33).
12. Severely deteriorated and/or failed sealant on wash (upward facing) joints were found throughout the façades (see Photo Nos. 34 and 35). Water freely entering into the building's façades will promote advanced deterioration of the façade components. Water trapped in the walls during freeze/thaw cycles will generate expansive forces causing spalling and cracking of masonry units (see Photo Nos. 36 and 37). Water entering the walls will also promote corrosion of embedded steel components such as lateral ties, anchors, and support angles and possibly the structural steel framework. The corrosion of embedded steel components within the walls generate expansive forces to the exterior masonry resulting in spalling, cracking, and displacement (see Photo Nos. 38 and 39).

13. Small epoxy repairs were observed at many locations throughout the façades. The repairs were generally in good condition (see Photo No. 40).
14. Stone Dutchman repairs were observed at many locations throughout the façades. The repairs were generally in good condition (see Photo No. 41).

B. Additional possible points of water entering into the façades include the following:

1. Open seams in the metal gutter atop the cornice at the 6th floor were found randomly throughout the façades (see Photo Nos. 42 and 43). The gutter had been previously replaced at the west and south end of the east elevations. The open seams appear to be the result of normal expansion and contraction of the gutter system during thermal cyclical changes, and were more common at areas where the gutter had not been recently repaired or replaced. Ponding water in the gutters is likely to infiltrate into the façades through the open seams.
2. Back-pitched weep holes installed directly over the back side of the gutter occur at the south end of the west elevation (see Photo No. 44). Ponding water in the gutter below indicates a clogged drain in the area (see Photo No. 45). Water overflowing the gutter during heavy rains will flow into the walls through the back-pitched weep holes prompting accelerated deterioration of the façades below.
3. Open and deteriorated sealant joints at the metal collector pans between column bases at the 4th floor colonnades (see Photo No. 46).
4. Window perimeter sealant joints were generally in poor condition on the north east and south elevations, with open/failed joints commonly observed (see Photo No. 47). Perimeter sealants on the west elevation were in fair condition, apparently having been replaced in the not too distant past.
5. Sealant joints at roofing membrane perimeter counter flashings are in poor condition. Failed and open joints were commonly observed and allow water infiltration into the masonry below.

C. Brick Masonry

The brickwork on the façades occurs behind parapet walls at the base of the set back upper floors, the setback rooftop penthouses, and the interior of the light courts. The majority of these areas are not considered part of the exterior façades and were not closely reviewed as part of the Critical Examination of the exterior façades.

1. Large cracks were observed at the northeast and southeast corners of the sixth floor, below the limestone (refer to drop sheets from drop nos. 21 and 36). These cracks may be due to the normal stresses caused by movement of walls, and may be exacerbated by corrosion of embedded steel columns (see Photo No. 48).

D. Parapets

1. Limestone masonry of the various parapets was generally in good condition. Minor cracks and spalls were observed at isolated locations at all parapets (see Photo Nos. 49 and 50).

2. As previously discussed, the parapet at the northeast corner of the sixth floor is in poor condition. Open wash joints have led to water infiltration of the masonry and subsequent movement due to freeze/thaw cycling. Water infiltration and movement have also resulted in numerous small cracks and spalls in this area (Photo Nos. 51).
3. At the southwest parapet of the sixth floor and at the south and west parapets of the high roof, significant weathering of stone surfaces was observed, primarily at the tops of walls. This observation corresponds with weathering observed at the outside face of the parapets in these locations (see Photo No. 52).
4. At the seventh floor parapets (north and south) small spalls were frequently observed where sheet metal cap flashings were fastened (see Photo No. 53).
5. Mortar joints at parapets were generally in good condition. Isolated deteriorated mortar joints were observed.
6. Sealant joints at the parapets and copings were generally in poor condition. Failed/open sealant joints were frequently observed (see Photo No. 54).

E. Windows and Grillages

1. Above the first floor the windows are replacement windows with metal frames and are in fair to good condition (see Photo No. 55).
 - a. Glazing seals are in fair condition.
2. Metal grillage is installed over the 5th floor windows, in an apparent effort to deter roosting birds, and is in fair to good condition (see Photo No. 56).
3. At the first floor, large arched windows with faux entry portals, are set back from the face of the façades and are in fair condition. The windows in these locations are replacements, however the original bronze windows remain at the three main entrance portals at the east elevation. The bronze windows are in good condition, although have advanced patina. (see Photo Nos. 57 and 58).

IV. Recommended Repair Work

The following conditions, found to be potentially “unsafe and imminently hazardous” in the near future were promptly removed or stabilized by the masonry contractor at the direction of K&H:

1. At the southwest corner of the seventh floor cornice, two (2) stainless steel pins were installed at a cracked stone. The pins consist of stainless steel threaded rods set in epoxy in the back-up masonry, with a mechanical attachment provided by stainless steel nuts and washers.
2. At the northeast and southeast corners of the seventh through eighth floors, stainless steel straps were installed to stabilize cracked stones. The stainless steel straps were secured with stainless steel threaded rods set in epoxy in the back-up masonry with a mechanical attachment provided by stainless steel nuts and washers. Cracks in the limestone and brick below were sealed (see Photo No. 59).
3. At the northeast sixth floor parapet, eight (8) cracked stones were pinned in place with using the same method as described in item no. 1 above. Cracks in the limestone and all open wash joints within reach were sealed (see Photo No. 60).
4. At the pilaster at the east end of the north elevation, one large spall was removed and pins were installed at the edge of the spall to temporarily stabilize the stone. Pins were also installed at a similar, previously removed spall, further down on the pilaster (see Photo No. 61).

Recommendations for repairs of distressed conditions and completion dates for repair are discussed below. K&H recommends that the owner consider performing the repairs which are recommended to be completed within two (2) years at the same time as the repairs which are recommended to be completed within one (1) year to save mobilization costs.

1. Where the above described stabilization repairs were completed, permanent repairs should be completed within six (6) months to one (1) year. Such repairs would likely include replacement of cracked stones, partial rebuilding of the northeast parapet, and Dutchman repairs or stone replacement at large spalls.
2. The primary cause of the distressed conditions observed on the façades is water entering into the building’s façades. Based on previous reports, it appears that water entering into the façades was also the primary cause of the spalled stone that fell from the west elevation in May of 2010. K&H recommends that the sealant on 100% of the wash (upward facing) joints be replaced within one (1) year.

The building may want to include the installation of weather cap joint protection along with the wash joint sealant replacement. Weather cap joint protection consists of lead ‘T’s that embed into the sealant joints and prolong the life of the sealant joints for extended periods. We highly recommend the weather cap joint protection, particularly for buildings with difficult, and costly, access to the façades.

On the upper portion of the façade at the center of the east elevation, two of the wash joints on the parapet copings had weather cap protection installed (see Photo No. 62). The installation of the weather cap joint protection may well have been incorporated in the original construction of the courthouse. We have observed weather cap installation on numerous buildings of this vintage, particularly governmental and institutional buildings.

3. Sealant joints at the window perimeters on the north, east and west elevations, as well as the roof counter flashings should be replaced within one (1) year.
4. Open seams in the inlaid copper gutter atop the cornice should also be repaired within one (1) year. Detailing of the seam repairs will need to address the expansion and contraction of the gutter system.
5. The back pitched weep holes directly above the cornice gutter on the west elevation should be properly reinstalled or abandoned and sealed within one (1) year.
6. Spalled, displaced (shifted). And cracked stone units should be repaired or replaced within the next two (2) years. These repairs would involve removal and repair or replacement, or merely removal and reinstallation of intact displaced stone units. These repairs will likely include repairs/replacements of embedded steel components and rebuilding of back-up masonry.
7. Open and/or severely deteriorated mortar joints should be repaired and re-pointed within the next two (2) years.
8. Cracked, shifted, and severely deteriorated brick masonry should be rebuilt within the next two (2) years.

APPENDIX A

Site Plan
Inspection Drop Plan

W. STATE ST.

N. 10TH ST.

Milwaukee County Courthouse

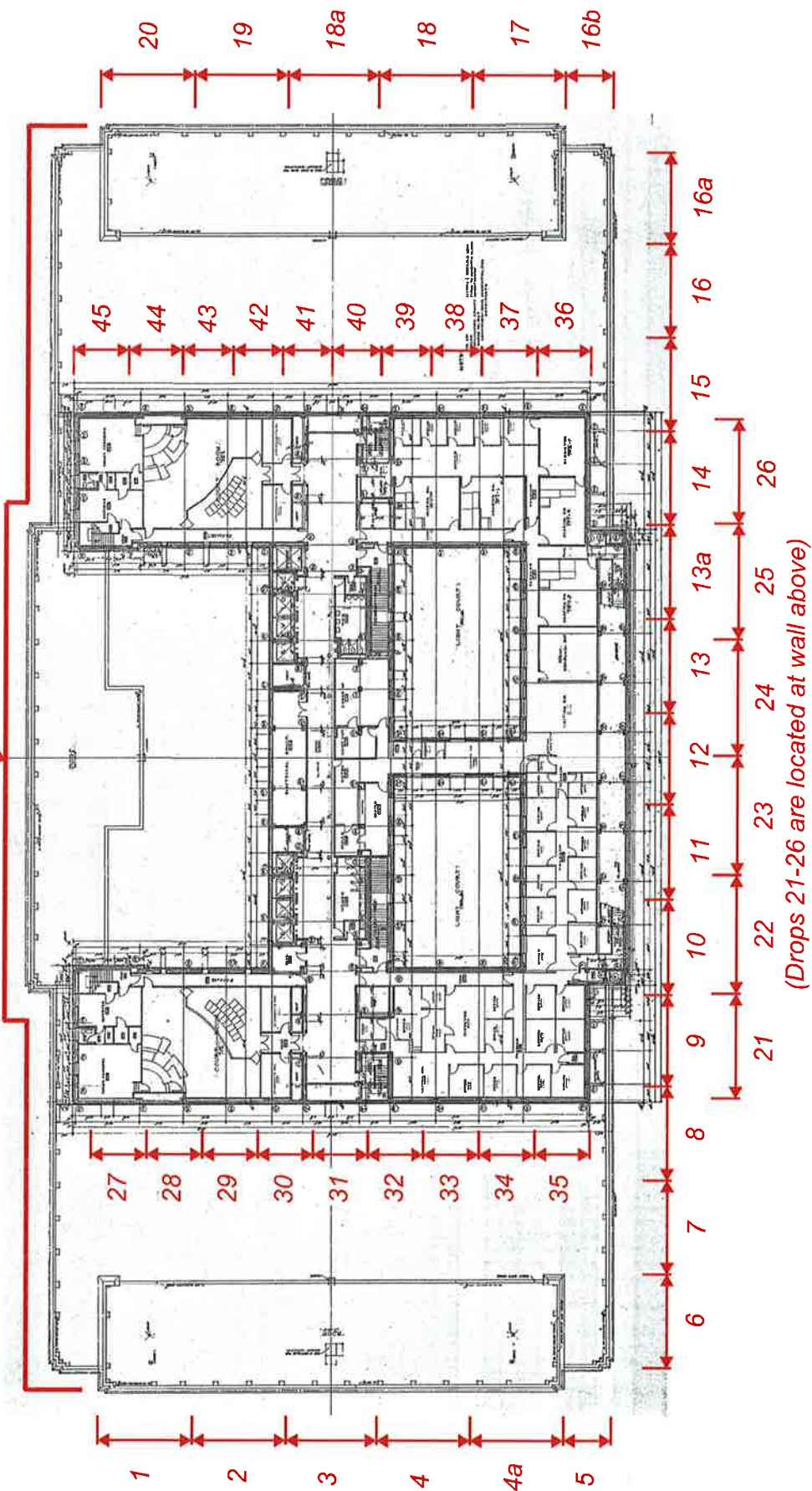
N. 9TH ST.

W. WELLS ST.

SITE PLAN



West elevation inspected
using 185' boom lift.



(Drops 21-26 are located at wall above)

7th Floor/Roof Plan – Drop Location Plan



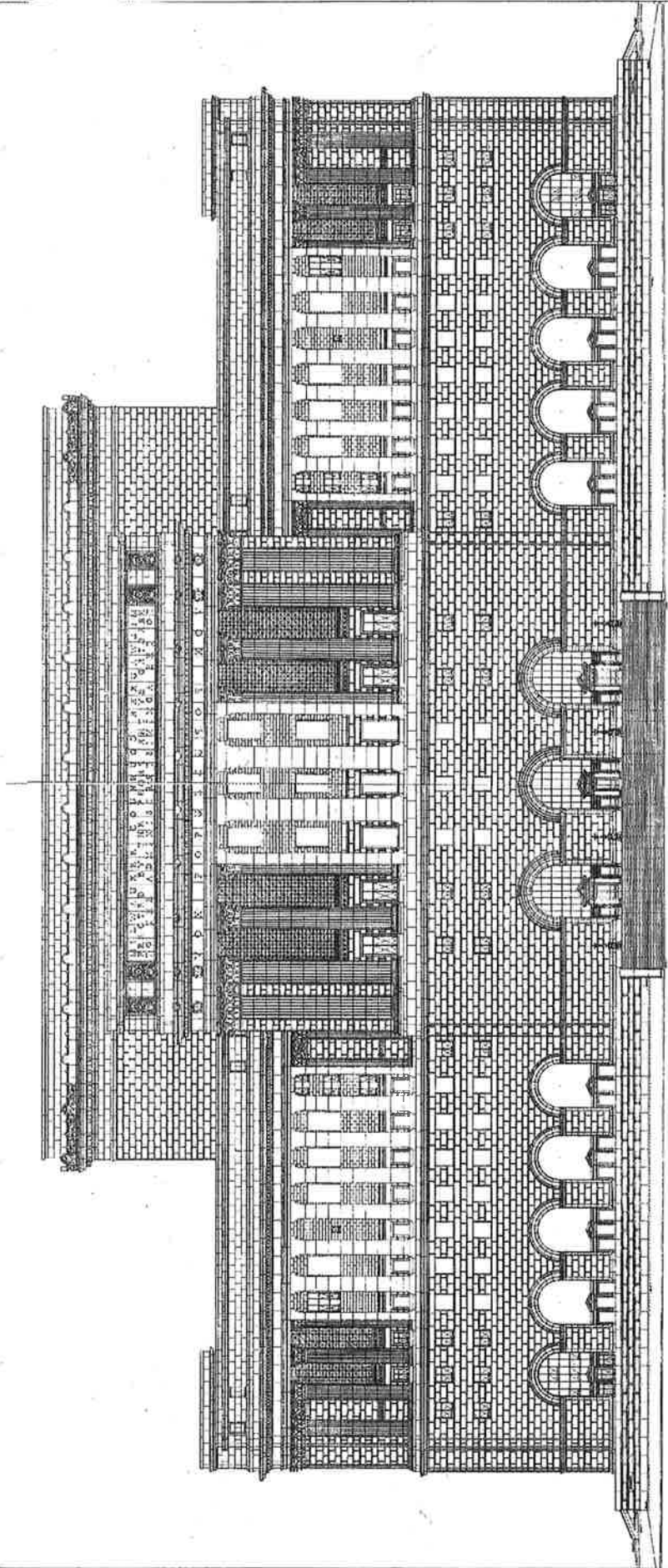
APPENDIX B

Elevation Drawings

NOTES:
1. SEE PLAN FOR LOCATION OF THIS ELEVATION.
2. SEE PLAN FOR LOCATION OF THIS ELEVATION.
3. SEE PLAN FOR LOCATION OF THIS ELEVATION.
4. SEE PLAN FOR LOCATION OF THIS ELEVATION.
5. SEE PLAN FOR LOCATION OF THIS ELEVATION.
6. SEE PLAN FOR LOCATION OF THIS ELEVATION.
7. SEE PLAN FOR LOCATION OF THIS ELEVATION.
8. SEE PLAN FOR LOCATION OF THIS ELEVATION.
9. SEE PLAN FOR LOCATION OF THIS ELEVATION.
10. SEE PLAN FOR LOCATION OF THIS ELEVATION.

NOTES:
1. SEE PLAN FOR LOCATION OF THIS ELEVATION.
2. SEE PLAN FOR LOCATION OF THIS ELEVATION.
3. SEE PLAN FOR LOCATION OF THIS ELEVATION.
4. SEE PLAN FOR LOCATION OF THIS ELEVATION.
5. SEE PLAN FOR LOCATION OF THIS ELEVATION.
6. SEE PLAN FOR LOCATION OF THIS ELEVATION.
7. SEE PLAN FOR LOCATION OF THIS ELEVATION.
8. SEE PLAN FOR LOCATION OF THIS ELEVATION.
9. SEE PLAN FOR LOCATION OF THIS ELEVATION.
10. SEE PLAN FOR LOCATION OF THIS ELEVATION.

NOTES:
1. SEE PLAN FOR LOCATION OF THIS ELEVATION.
2. SEE PLAN FOR LOCATION OF THIS ELEVATION.
3. SEE PLAN FOR LOCATION OF THIS ELEVATION.
4. SEE PLAN FOR LOCATION OF THIS ELEVATION.
5. SEE PLAN FOR LOCATION OF THIS ELEVATION.
6. SEE PLAN FOR LOCATION OF THIS ELEVATION.
7. SEE PLAN FOR LOCATION OF THIS ELEVATION.
8. SEE PLAN FOR LOCATION OF THIS ELEVATION.
9. SEE PLAN FOR LOCATION OF THIS ELEVATION.
10. SEE PLAN FOR LOCATION OF THIS ELEVATION.



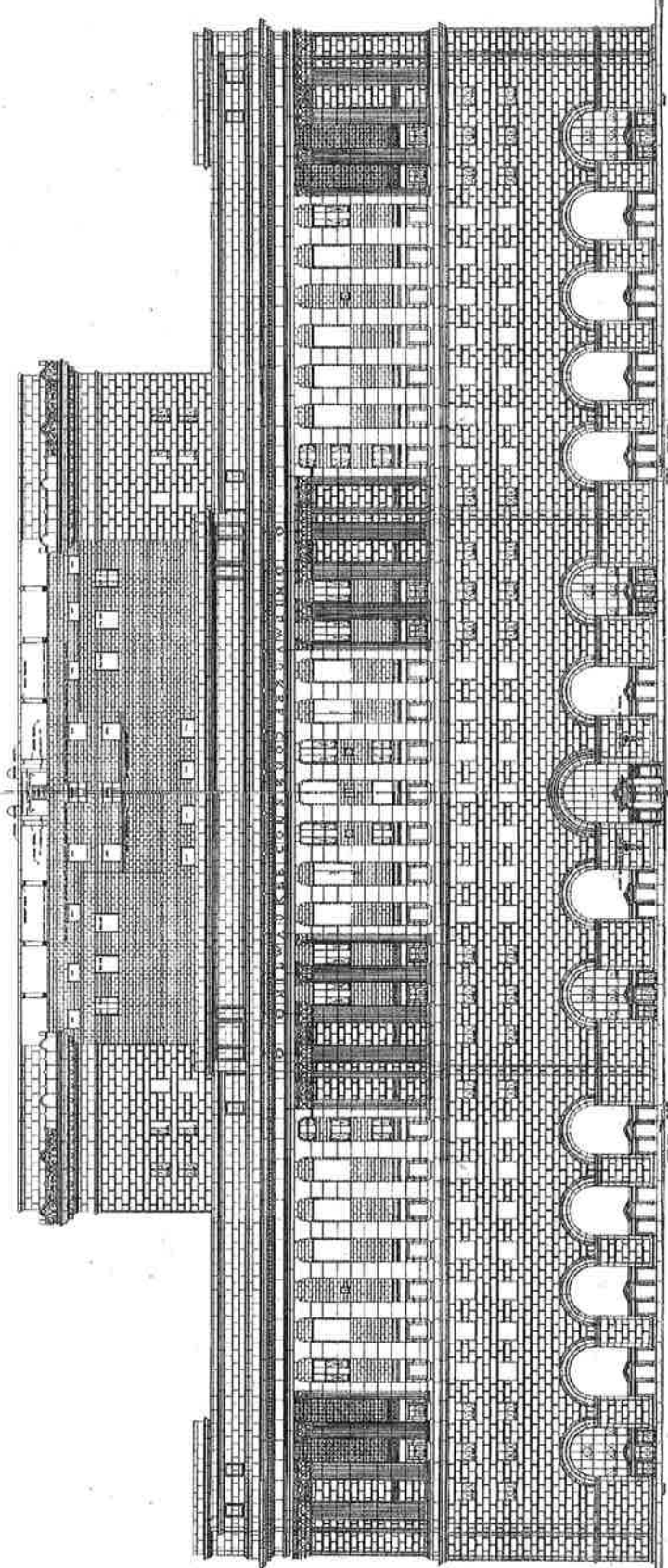
12-14
12-15
12-16
12-17
12-18
12-19
12-20
12-21
12-22
12-23
12-24
12-25
12-26
12-27
12-28
12-29
12-30
12-31
12-32
12-33
12-34
12-35
12-36
12-37
12-38
12-39
12-40
12-41
12-42
12-43
12-44
12-45
12-46
12-47
12-48
12-49
12-50
12-51
12-52
12-53
12-54
12-55
12-56
12-57
12-58
12-59
12-60
12-61
12-62
12-63
12-64
12-65
12-66
12-67
12-68
12-69
12-70
12-71
12-72
12-73
12-74
12-75
12-76
12-77
12-78
12-79
12-80
12-81
12-82
12-83
12-84
12-85
12-86
12-87
12-88
12-89
12-90
12-91
12-92
12-93
12-94
12-95
12-96
12-97
12-98
12-99
13-00

EAST ELEVATION
MILWAUKEE COUNTY COURTHOUSE

12-1
12-2
12-3
12-4
12-5
12-6
12-7
12-8
12-9
12-10
12-11
12-12
12-13
12-14
12-15
12-16
12-17
12-18
12-19
12-20
12-21
12-22
12-23
12-24
12-25
12-26
12-27
12-28
12-29
12-30
12-31
12-32
12-33
12-34
12-35
12-36
12-37
12-38
12-39
12-40
12-41
12-42
12-43
12-44
12-45
12-46
12-47
12-48
12-49
12-50
12-51
12-52
12-53
12-54
12-55
12-56
12-57
12-58
12-59
12-60
12-61
12-62
12-63
12-64
12-65
12-66
12-67
12-68
12-69
12-70
12-71
12-72
12-73
12-74
12-75
12-76
12-77
12-78
12-79
12-80
12-81
12-82
12-83
12-84
12-85
12-86
12-87
12-88
12-89
12-90
12-91
12-92
12-93
12-94
12-95
12-96
12-97
12-98
12-99
13-00

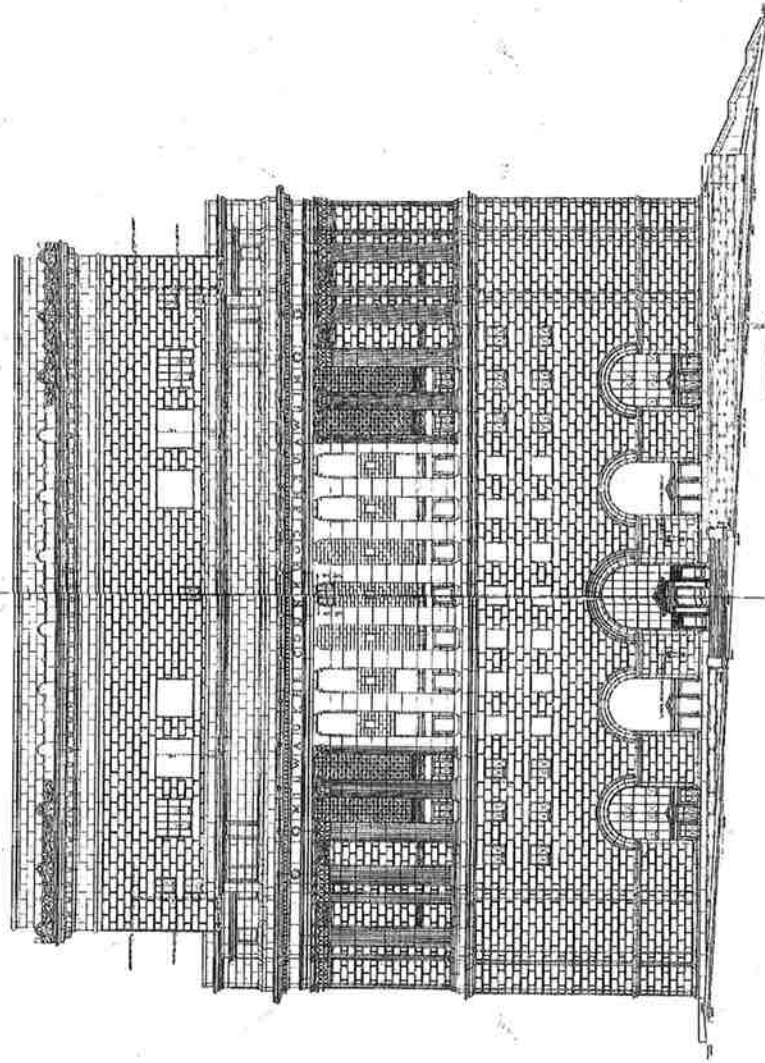
ALL DIMENSIONS
 TO BE GIVEN IN
 FEET AND INCHES
 AND TO BE
 GIVEN TO THE
 CENTER OF THE
 WALLS UNLESS
 OTHERWISE
 SPECIFIED

DRAWING NO. 22
 DATE OCTOBER 1913
 12-35



WEST ELEVATION
 MILWAUKEE COUNTY COURT HOUSE

DRAWING NO. 22
 DATE OCTOBER 1913



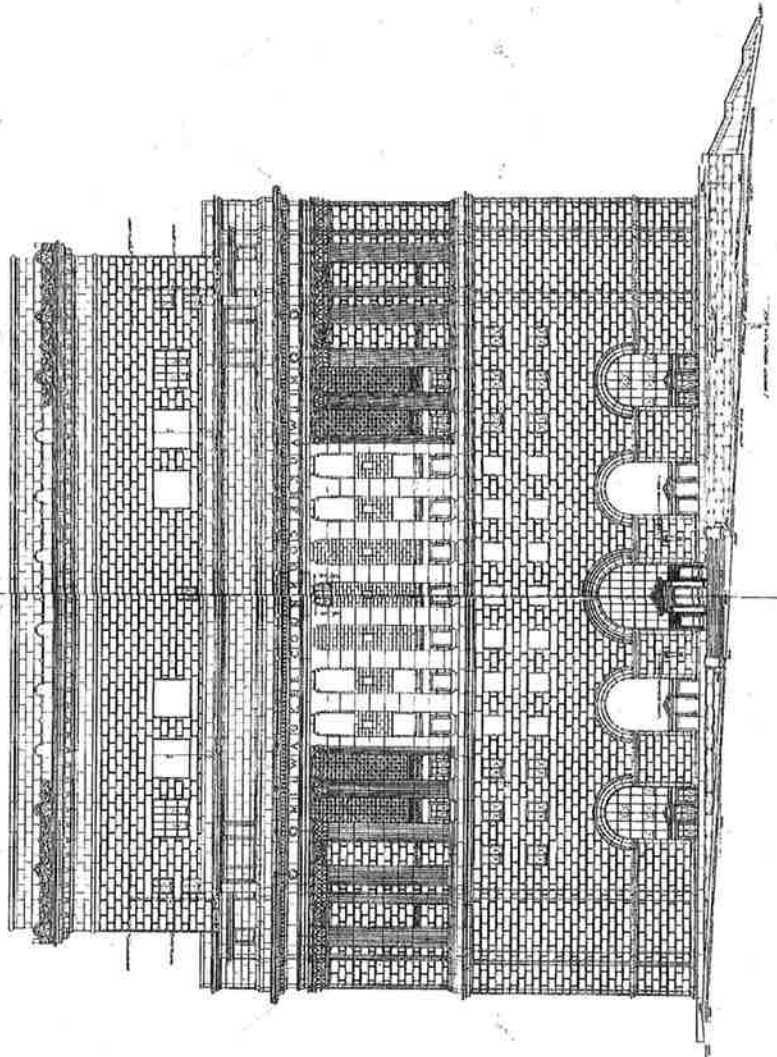
NORTH ELEVATION SIMILAR REVERSED

MILWAUKIE COUNTY COURT HOUSE
NORTH ELEVATION

ARCHITECTURAL DRAWING

DRAWN BY
J. H. BROWN

12-4



NORTH ELEVATION SIMILAR REVERSE

SOUTH ELEVATION
MILWAUKEE COUNTY COURT HOUSE

DRAWING NO. 28
JAN. 1904

12-46

ARCHITECT
J. M. HARRIS

APPENDIX C

High Reach Lift Survey Sheets
Swing stage Scaffold Inspection Drop Sheets

8/17/16

* = Urgent Removal/Repair

Drop No. 1

Parapet

Sixth Floor

Fifth Floor Mezz

Fifth Floor

Fourth Floor Mezz

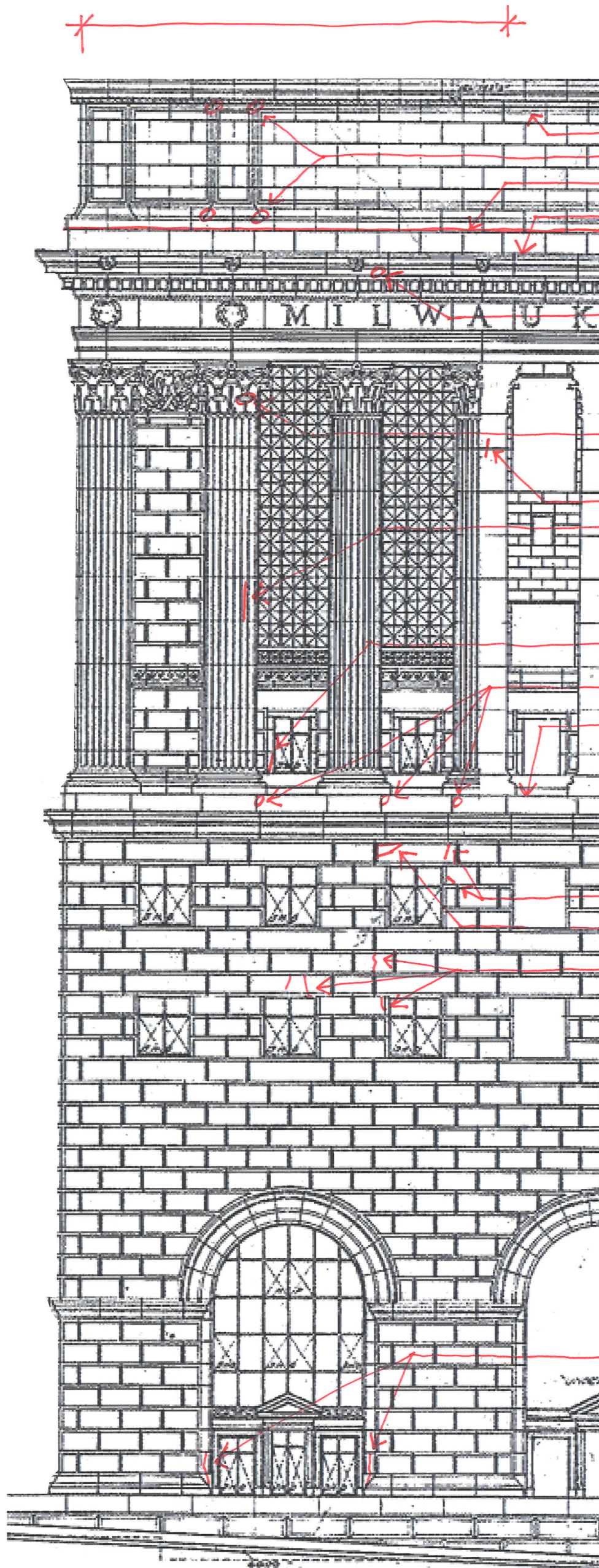
Fourth Floor

Third Floor

Second Floor

First Floor Mezz

First Floor



failed sealant
stone dutchmen
failed sealant
cracked golder joints
at gutter, typical
See Photo No. 43, typical

loose patch removed *

Sim. to Photo No. 18, typical

patch

crack

repaired crack

Sim. to Photo No. 19, typical

crack

Sim. to Photo No. 16

loose patches removed *

isolated open mortar
joints

Sim. to Photo No. 30

crack Sim. to Photo No. 20

spall removed *

Sim. to Photo No. 36

repaired cracks

cracks / open mortar
joints

Sim. to Photo Nos. 16 and 29

8/17/16

*** = Urgent Removal/Repair**

Drop No. 2

Parapet

Sixth Floor

Fifth Floor Mezz

Fifth Floor

Fourth Floor Mezz

Fourth Floor

Third Floor

Second Floor

First Floor Mezz

First Floor

patch
standing water,
cracked soldier joints
at gutter

Sim. to Photo Nos. 43 and 45

stone dutchman
Sim. to Photo No. 41, typical

spall removed *

spall removed *

stone dutchman

failed sealant at
roofing perimeter,
typical

Sim. to Photo
No. 46

failed wash joints
Sim. to Photo No. 35, typical

spall removed *
patch

Sim. to Photo No. 36

repaired crack

Sim. to Photo No. 19, typical

repaired cracks

cracks / open mortar
joints

Sim. to Photo Nos. 16 and 29

cracks / spalls at
base of door

Sim. to Photo No. 33

2

3

4

8/18/16

* = Urgent Removal / Repair

Drop No. 3



Parapet

Sixth Floor

Fifth Floor Mezz

Fifth Floor

Fourth Floor Mezz

Fourth Floor

Third Floor

Second Floor

First Floor Mezz

First Floor

spall

standing water,
cracked solder joints
Sim. to Photo Nos. 43 and 45

patches

stone dutchmen
See Photo No. 22

cracked solder joints
at roofing; failed
perimeter sealant
Sim. to Photo No. 46

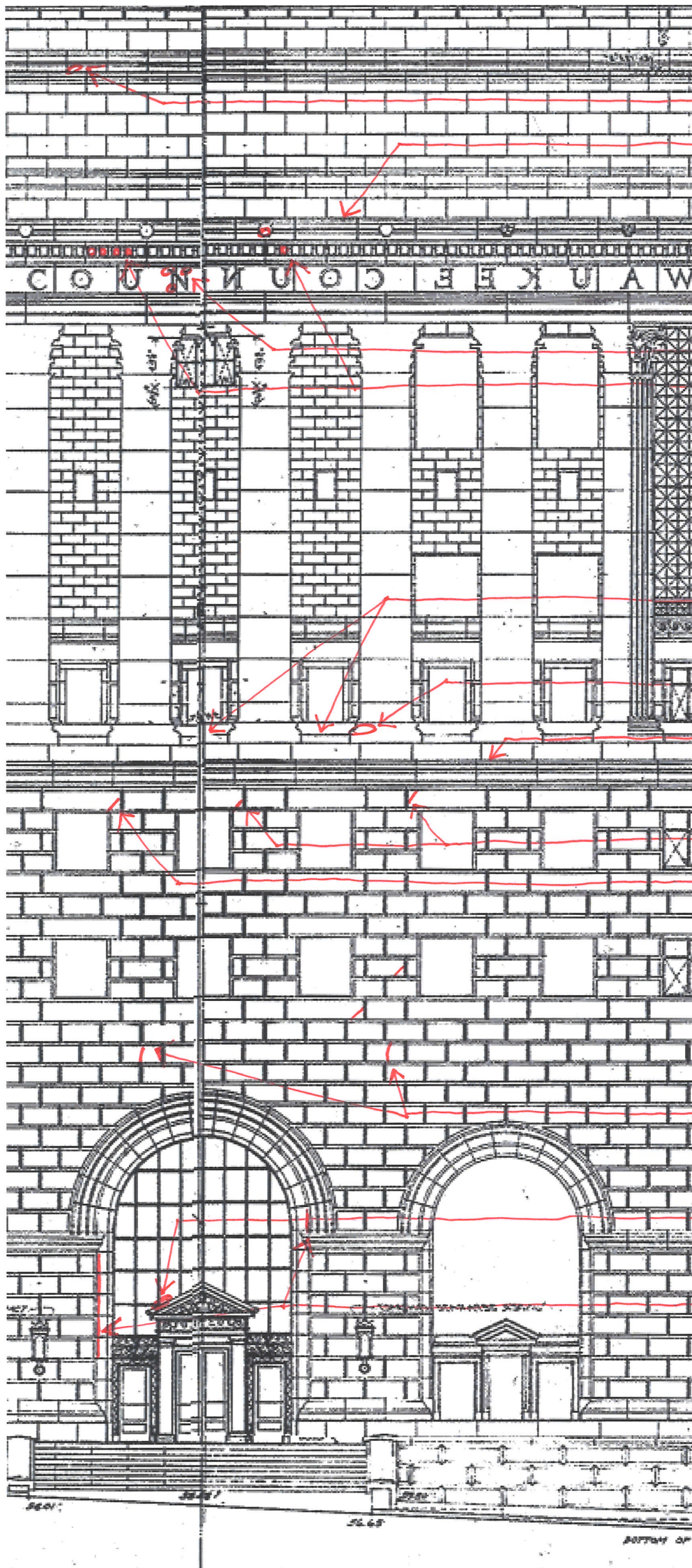
spall
Sim. to Photo No. 23
failed wash joints
Sim. to Photo No. 35

spall
crack

repaired cracks
Sim. to Photo No. 19, typical

spall removed *

cracks



3

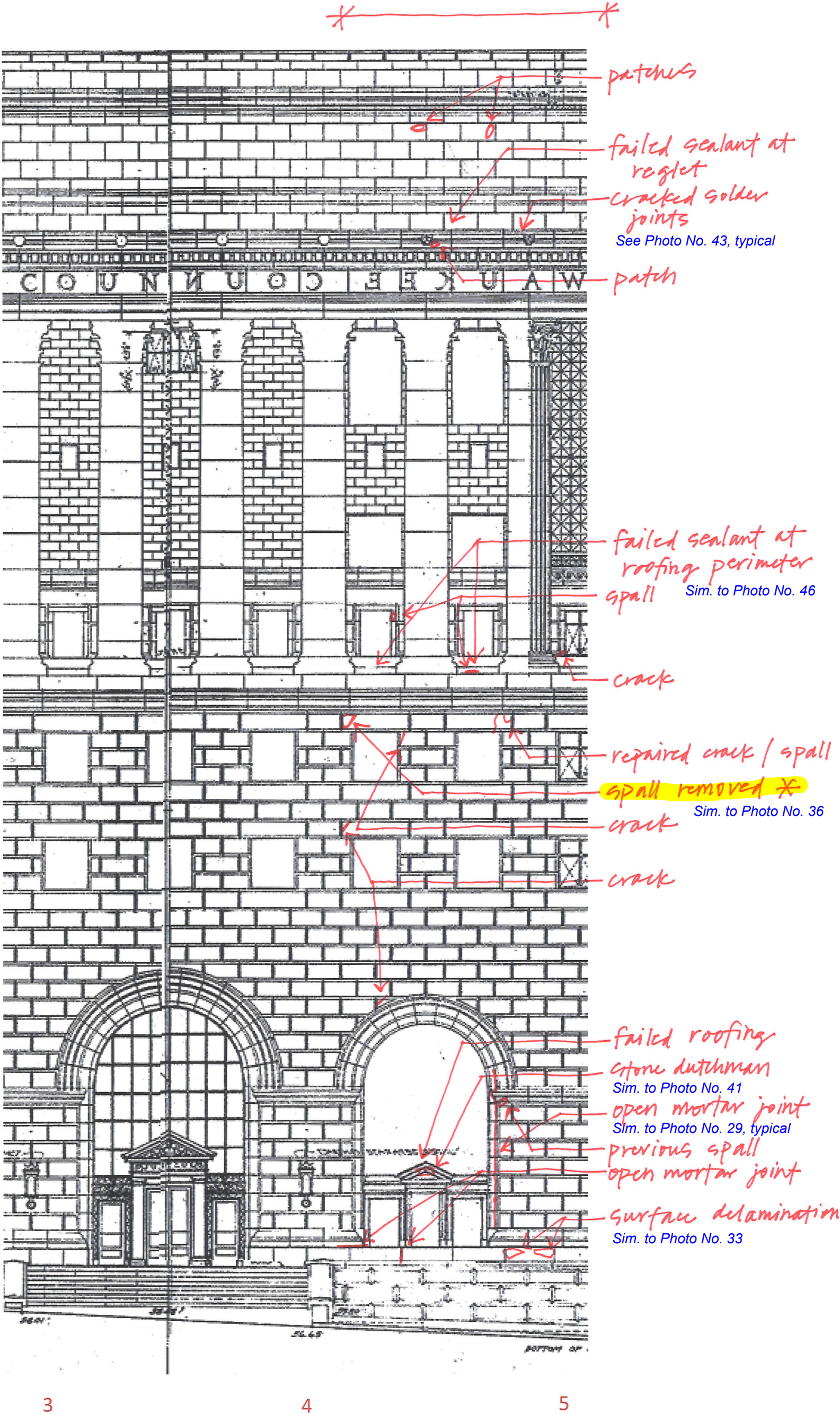
4

5

8/18/16

* = Urgent Removal / Repair

Drop No. 4



8/22/16

* = Urgent Removal/Repair

Drop No. 4a

Parapet

Sixth Floor

Fifth Floor Mezz

Fifth Floor

Fourth Floor Mezz

Fourth Floor

Third Floor

Second Floor

First Floor Mezz

First Floor

open mortar joints
patch Sim. to Photo No. 30, typical

ponding water
failed sealant at reglet
cracked solder joints
Sim. to Photo Nos. 43 and 45

stone dutchmen
Sim. to Photo No. 41
spall removed *

sealed mortar joints
failed Sim. to Photo No. 11

spall
open mortar joint at
pilaster corner
See Photo No. 28

3 cracks
failed wash joints
Sim. to Photo No. 35

repaired crack
Sim. to Photo No. 19, typical
window perimeter seals
failed, typical
Sim. to Photo No. 47

failed roofing
open mortar joints
Sim. to Photo No. 28
spall removed *

repaired cracks

B/22/16

*** = Urgent Removal/Repair**

Drop No. 5

Parapet

Sixth Floor

Fifth Floor Mezz

Fifth Floor

Fourth Floor Mezz

Fourth Floor

Third Floor

Second Floor

First Floor Mezz

First Floor

stone surface deterioration

Sim. to Photo No. 32

spall

crack

patch/spall repairs

Sim. to Photo No. 40

repaired crack

Sim. to Photo No. 19, typical

patch

repaired cracks

spall

repaired crack

spall

8/22/16

* = Urgent Removal / Repair

Drop No. 6

Fifth Floor Mezz

Fifth Floor

Fourth Floor Mezz

Fourth Floor

Third Floor

Second Floor

First Floor Mezz

First Floor

Surface erosion
Sim. to Photo No. 52

Small spall removed *

Surface deterioration
at underside of cornice.
* Loose material removed.
See Photo No. 32

Open mortar joints
at column corners.
See Photo No. 28

crack repair -

stone dutchman
failed wash joints

repaired crack
Sim. to Photo No. 19, typical

crack
spall

Surface deterioration/
discoloration
Sim. to Photo No. 25

crack
spall
repaired crack

P

O

8/23/16

X = Urgent Removal/Repair

Drop No. 7

Fifth Floor Mezz

Fifth Floor

Fourth Floor Mezz

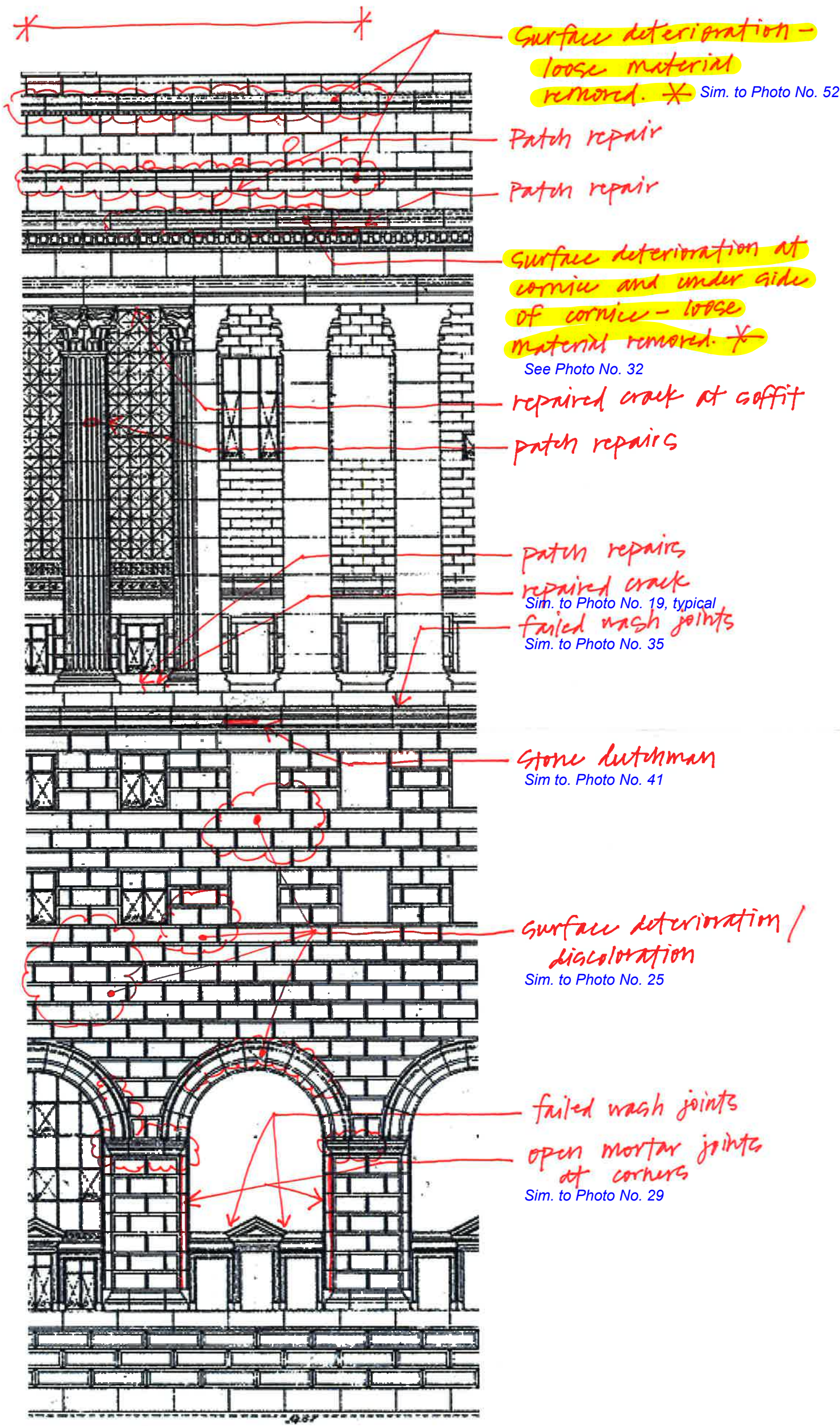
Fourth Floor

Third Floor

Second Floor

First Floor Mezz

First Floor



O

N

8/24/14

* = Urgent Removal/Repair

Fifth Floor Mezz

Fifth Floor

Fourth Floor Mezz

Fourth Floor

Third Floor

Second Floor

First Floor Mezz

First Floor

Drop No. 8

Surface deterioration
See Photo No. 24

repaired crack
patch repairs

Surface deterioration

Surface deterioration at
underside of cornice -
* loose material removed.

See Photo No. 32

crack

repaired cracks
Sim. to Photo No. 19, typical

patch repair

minor surface
deterioration removed
Sim. to Photo No. 26, typical

minor surface
deterioration

small spalls removed
Sim. to Photo No. 4, typical

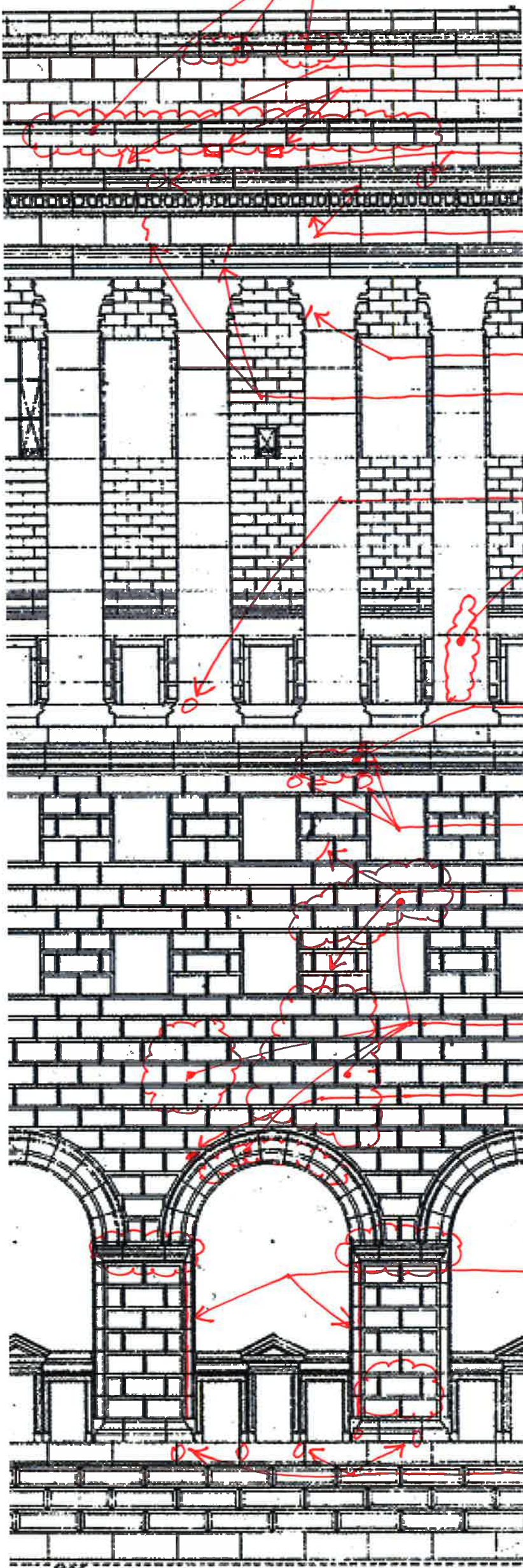
repaired crack

Surface deterioration/
discoloration
Sim. to Photo
No. 25

small spall removed

open mortar joints
at corners
Sim. to Photo No. 29

patch repairs



N

M

B/31/16, 9/1/16

* = Urgent Removal/Repair

Drop No. 9

Fifth Floor Mezz

Fifth Floor

Fourth Floor Mezz

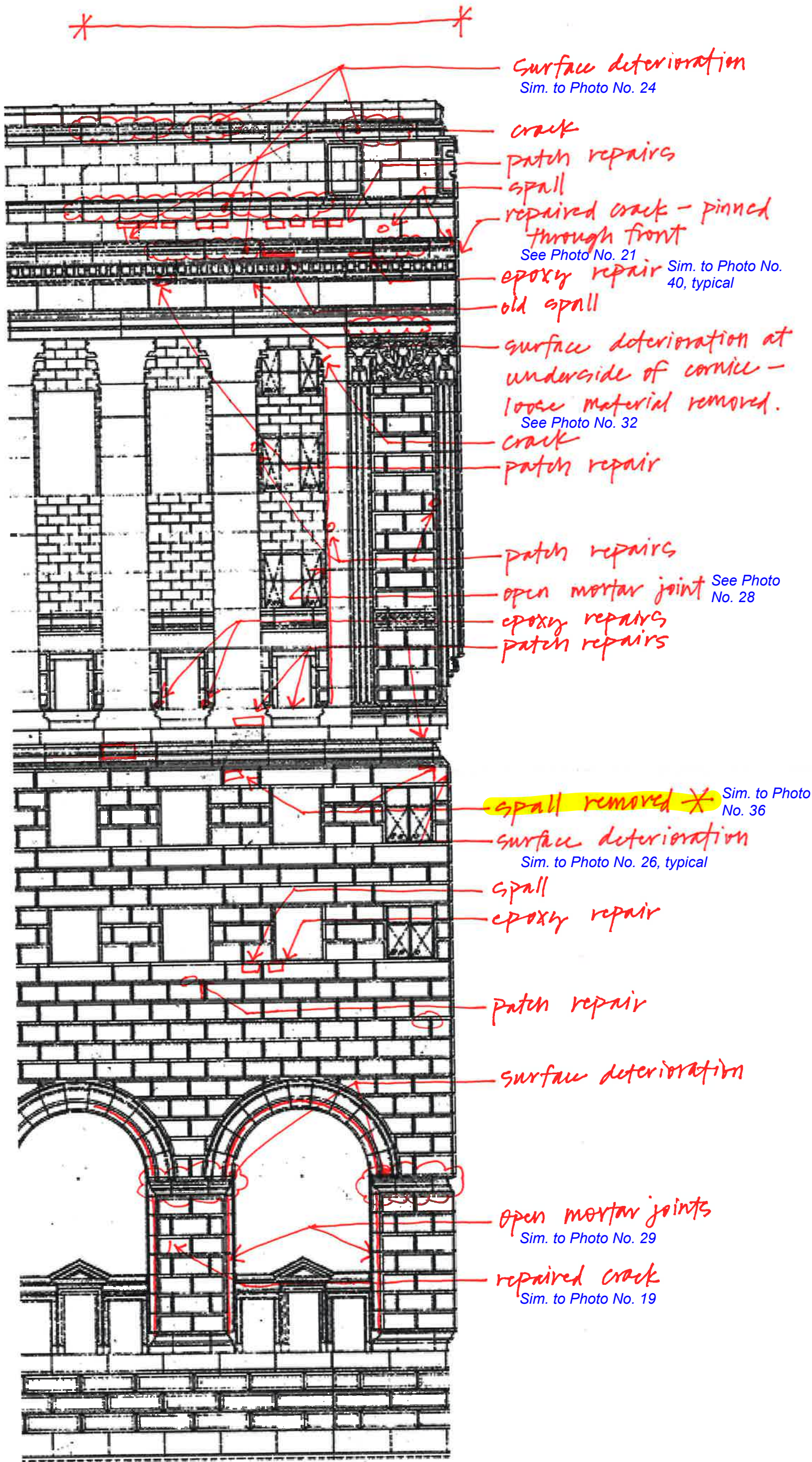
Fourth Floor

Third Floor

Second Floor

First Floor Mezz

First Floor



L

K

9/1/16

* = Urgent Removal / Repair

Eighth Floor

Seventh Floor Mezz

Seventh Floor

Sixth Floor Mezz

Sixth Floor

Fifth Floor Mezz

Fifth Floor

Fourth Floor Mezz

Fourth Floor

Third Floor

Second Floor

First Floor Mezz

First Floor

Drop No. 10

open mortar joint Sim. to Photo No. 30

horizontal joint sealed Sim. to Photo No. 11, typical

patch repairs

repaired crack Sim. to Photo No. 19, typical

spall

stone dutchmen Sim. to Photo No. 41

pin repair See Photo No. 21

patch repair

failed sealant at term. bar, typ. Sim. Photo No. 46

open mortar joints Sim. to Photo No. 30

spall removed

epoxy repair Sim. to Photo No. 40

old spall

surface deterioration Sim. to Photo No. 26, typical

cracks / crack repair / open joints Sim. to Photo Nos. 19 and 20

coating

surface deterioration / discoloration Sim. to Photo No. 25

isolated open mortar joints / cracks

patch repair

abandoned anchors

open mortar joint

* spall removed

spall

crack

K

J

9/2/16

* = Urgent Repair / Removal

Eighth Floor

Seventh Floor Mezz

Seventh Floor

Sixth Floor Mezz

Sixth Floor

Fifth Floor Mezz

Fifth Floor

Fourth Floor Mezz

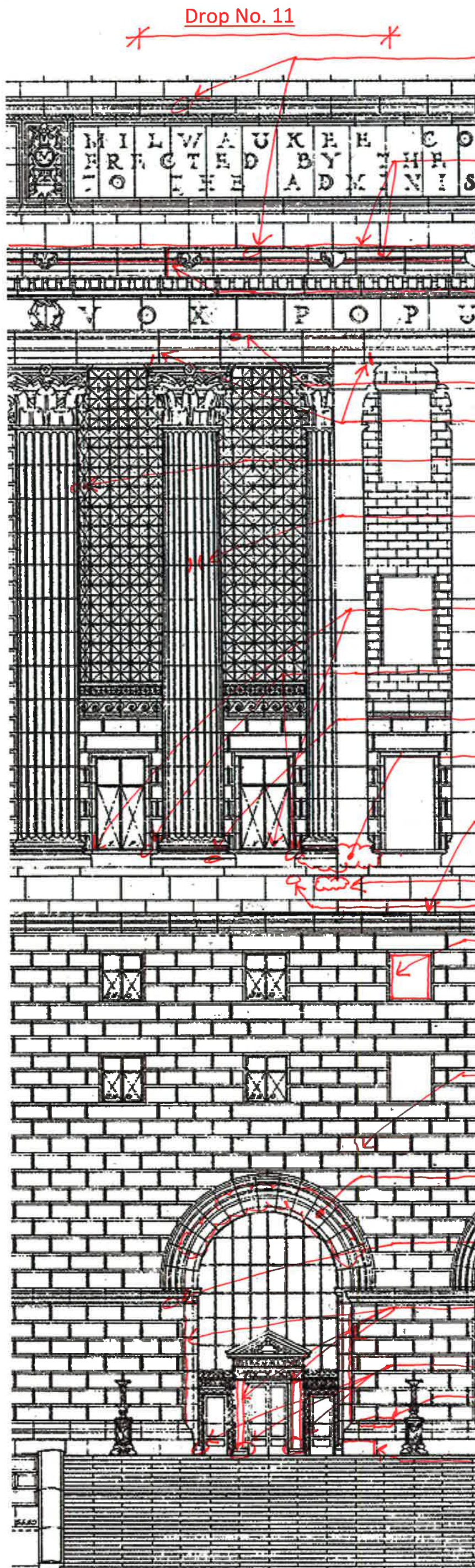
Fourth Floor

Third Floor

Second Floor

First Floor Mezz

First Floor



epoxy repair
Sim. to Photo No. 40

failed sealants, typ.
Sim. to Photo No. 11

open mortar joint
Sim. to Photo No. 30

patch repair
cracks

minor stone delamination
Sim. to Photo No. 26, typical

crack repair
Sim. to Photo No. 19, typical

failed sealant at
term bar Sim. to Photo No. 46

patch repair

old spall

minor surface
deterioration
Sim. to Photo No. 26, typical

biological growth

surface pitting
patch repair

failed perimeter sealants,
typ.
Sim. to Photo No. 47

repaired crack

minor surface
deterioration

epoxy repair
See Photo No. 40

open mortar joints
at corners Sim. to Photo
No. 29

spalls Sim. to Photo No. 33

loose patch material
removed.

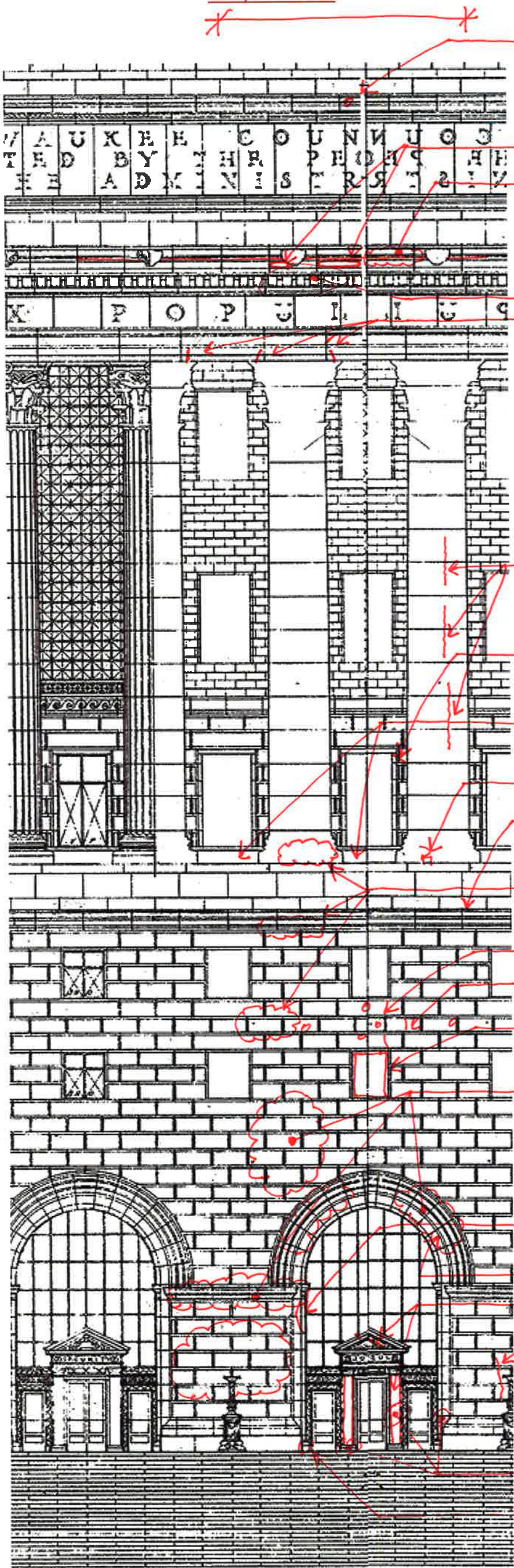
open mortar joints

1/2/16

* = Urgent Repair/Removal

Drop No. 11a

- Eighth Floor
- Seventh Floor Mezz
- Seventh Floor
- Sixth Floor Mezz
- Sixth Floor
- Fifth Floor Mezz
- Fifth Floor
- Fourth Floor Mezz
- Fourth Floor
- Third Floor
- Second Floor
- First Floor Mezz
- First Floor



- minor surface delamination
- stone luthmen
Sim. to Photo No. 41
- surface deterioration
Sim. to Photo No. 26, typical
- efflorescence
repaired cracks
Sim. to Photo No. 19, typical
- minor surface delamination removed
- crack
- failed sealant at term bar
Sim. to Photo No. 46
- large spall
Sim. to Photo No. 23
- biological growth
- minor surface deterioration
- patch repairs
- repaired cracks
- failed perimeter sealants, typ.
Sim. to Photo No. 47
- surface deterioration/discoloration
Sim. to Photo No. 25
- epoxy repair
See Photo No. 40
- repaired crack
- open mortar joints
- repaired crack
- surface deterioration
Sim. to Photo No. 33
- spall
Sim. to Photo No. 6

9/4/16

* = Urgent Removal/Repair

Drop No. 12

Eighth Floor

Seventh Floor Mezz

Seventh Floor

Sixth Floor Mezz

Sixth Floor

Fifth Floor Mezz

Fifth Floor

Fourth Floor Mezz

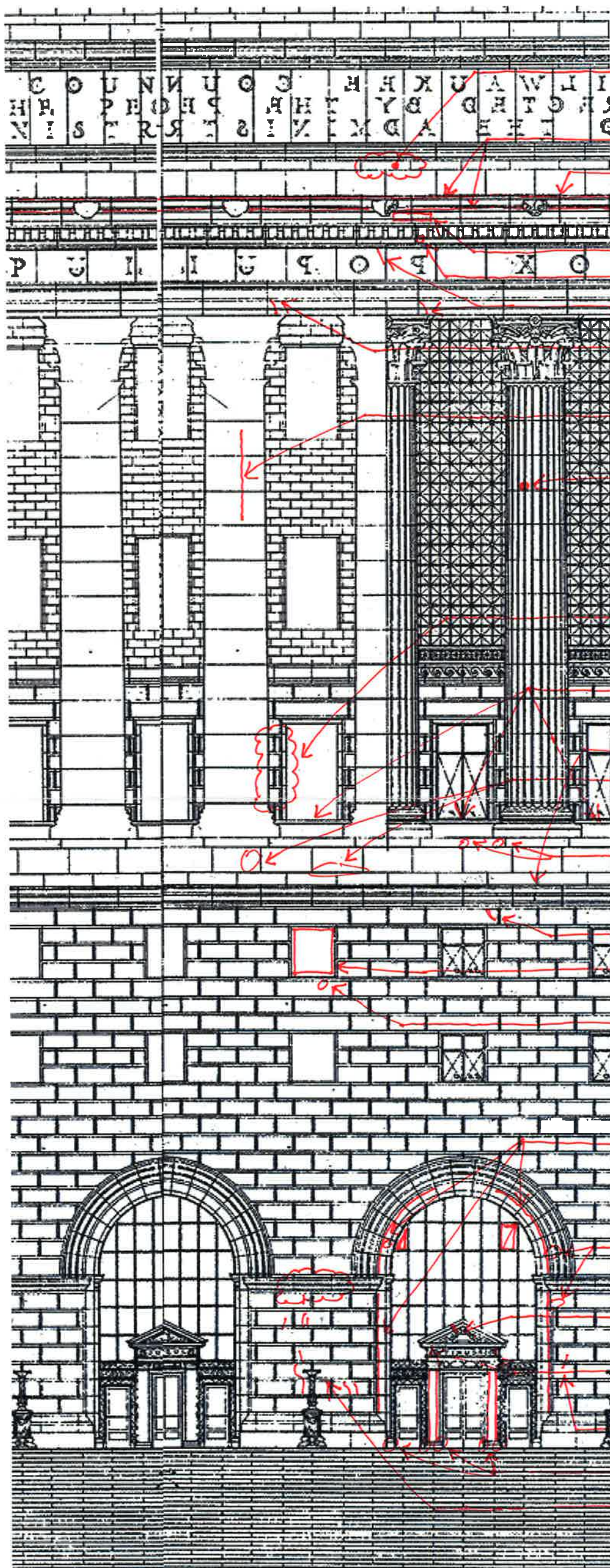
Fourth Floor

Third Floor

Second Floor

First Floor Mezz

First Floor



surface pitting/
deterioration

Sim. to Photo
No. 26

failed sealants, typ.

Sim. to Photo No. 11

isolated cracked golder
joints

Sim. to Photo No. 43

stone dutchman

Sim. to Photo
No. 41

patch repair

repaired cracks

repaired crack/
new crack

Sim. to Photo
Nos. 19 and 20

minor surface
delamination removed

patch repair

surface deterioration/
discoloration

Sim. to Photo
No. 25

failed sealant at
term bar

Sim. to Photo
No. 46

biological growth

minor surface
deterioration

Sim. to Photo No. 26

patch repairs

crack

failed perimeter
sealants, typ.

patch repair

open mortar
joints

Sim. to Photo No. 29

epoxy repairs

open mortar joint/
crack

epoxy repairs/
new cracks

Sim. to Photo
No. 40

repaired crack

spalls

Sim. to Photo No. 6

repaired cracks

I

H

G

9/6/16

X = Urgent Removal/Repair

Drop No. 13

Eighth Floor

Seventh Floor Mezz

Seventh Floor

Sixth Floor Mezz

Sixth Floor

Fifth Floor Mezz

Fifth Floor

Fourth Floor Mezz

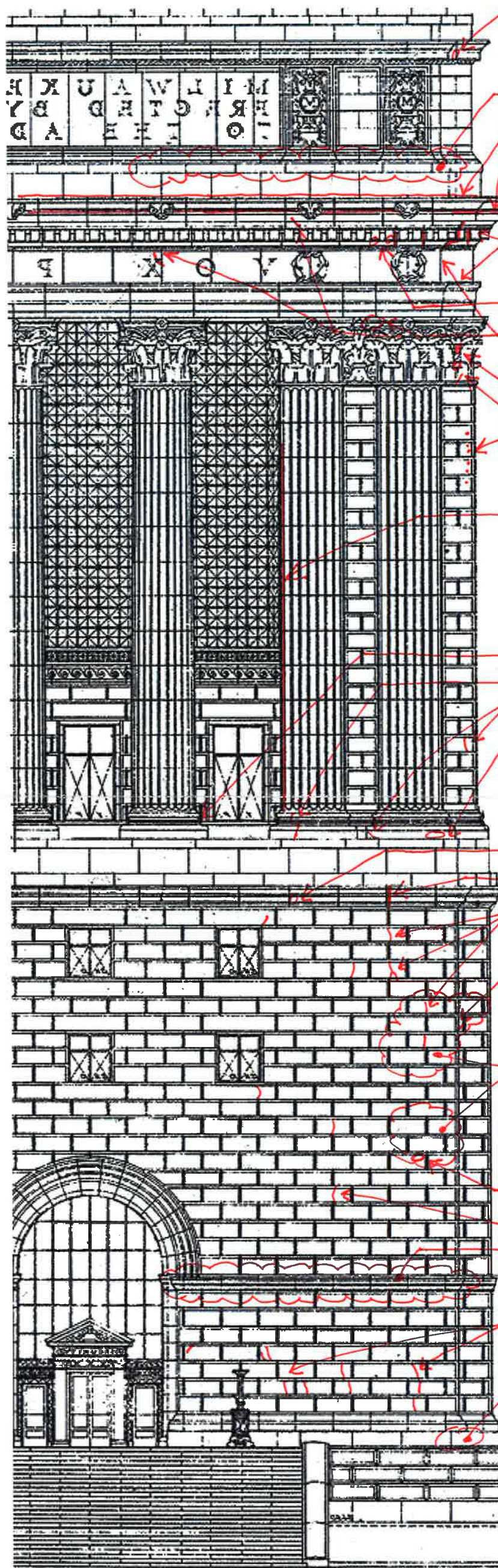
Fourth Floor

Third Floor

Second Floor

First Floor Mezz

First Floor



patch repair

pitting / surface deterioration
Sim. to Photo No. 26

failed sealants, typ.
Sim. to Photo No. 11

failed wash joints
Sim. to Photo No. 35

open mortar joints
Sim. to Photo No. 30

patch repairs

repaired cracks
Sim. to Photo No. 19

small spall removed

crack

Pin and epoxy crack repair

Sim. to Photo No. 21

open mortar joint
Sim. to Photo No. 28

epoxy repair
Sim. to Photo No. 40

large crack
Sim. to Photo No. 23

repaired cracks
Sim. to Photo No. 19

patch repair

patch repair

open mortar joint
Sim. to Photo No. 30

repaired cracks / new cracks
Sim. to Photo Nos. 19 and 20

spall

surface deterioration / discoloration
Sim. to Photo No. 25

patch repair / spall

cracks

surface deterioration
Sim. to Photo No. 26

repaired cracks

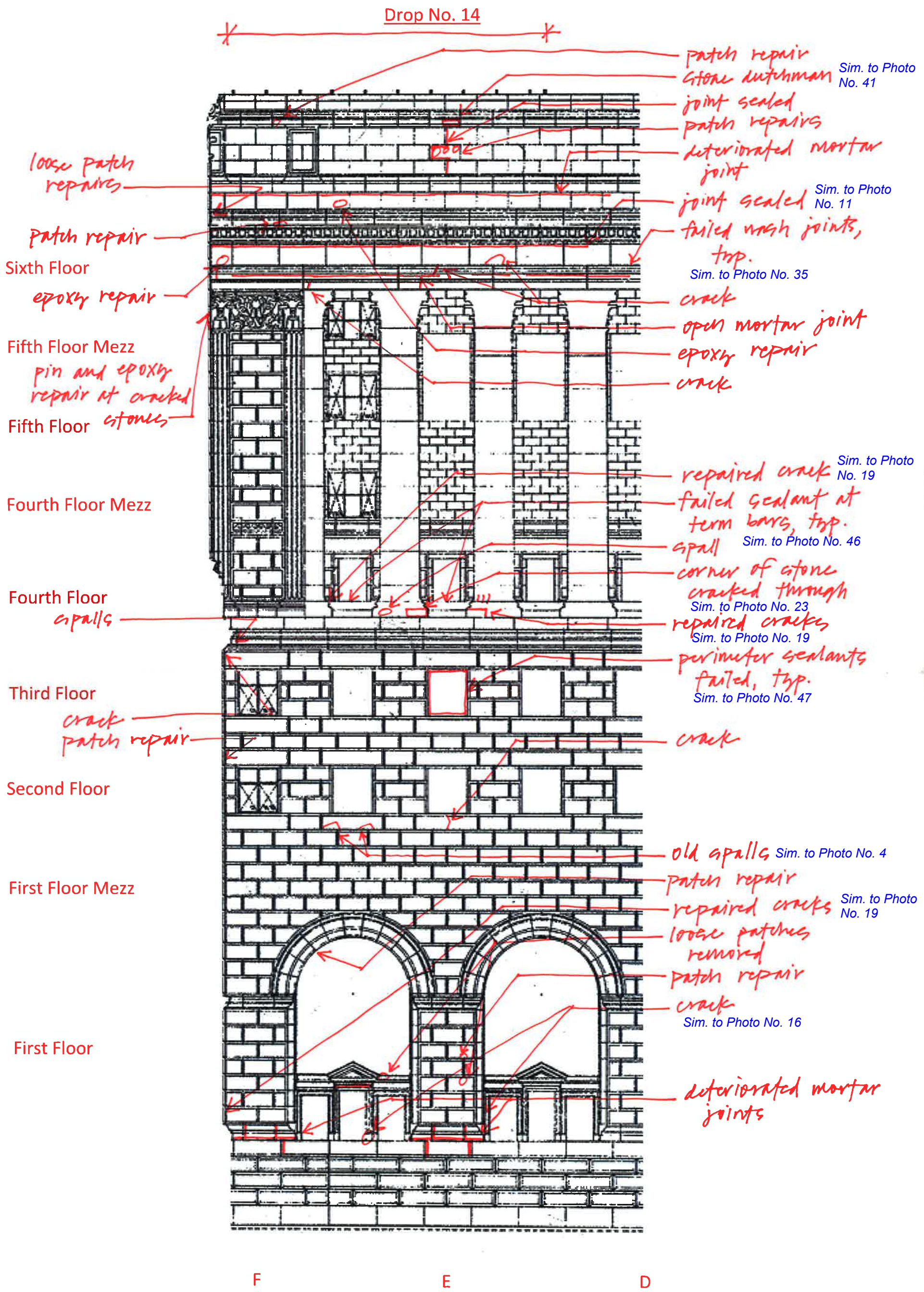
cracks

G

F

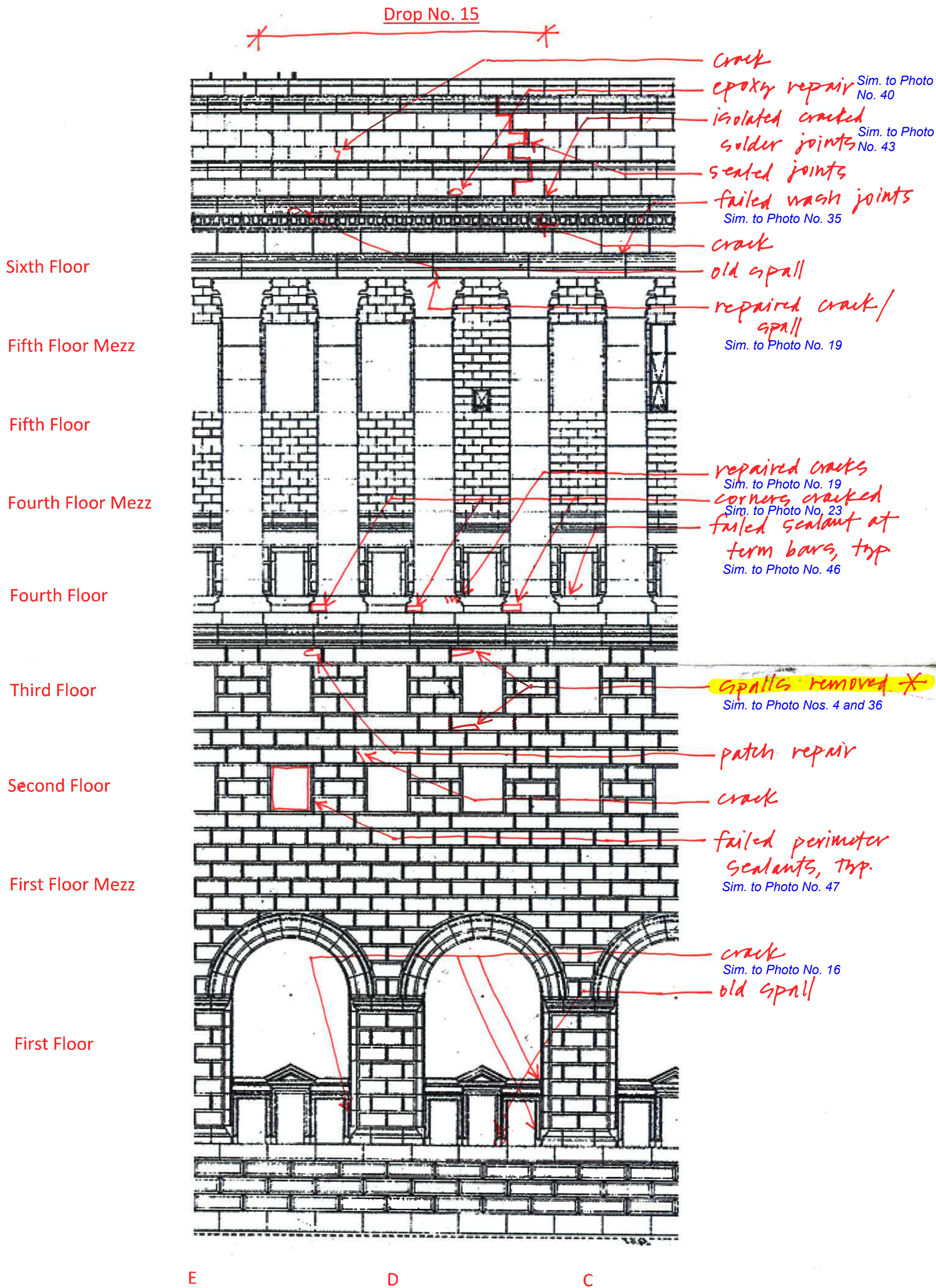
9/6/14

* = Urgent Removal/Repair



8/25/16

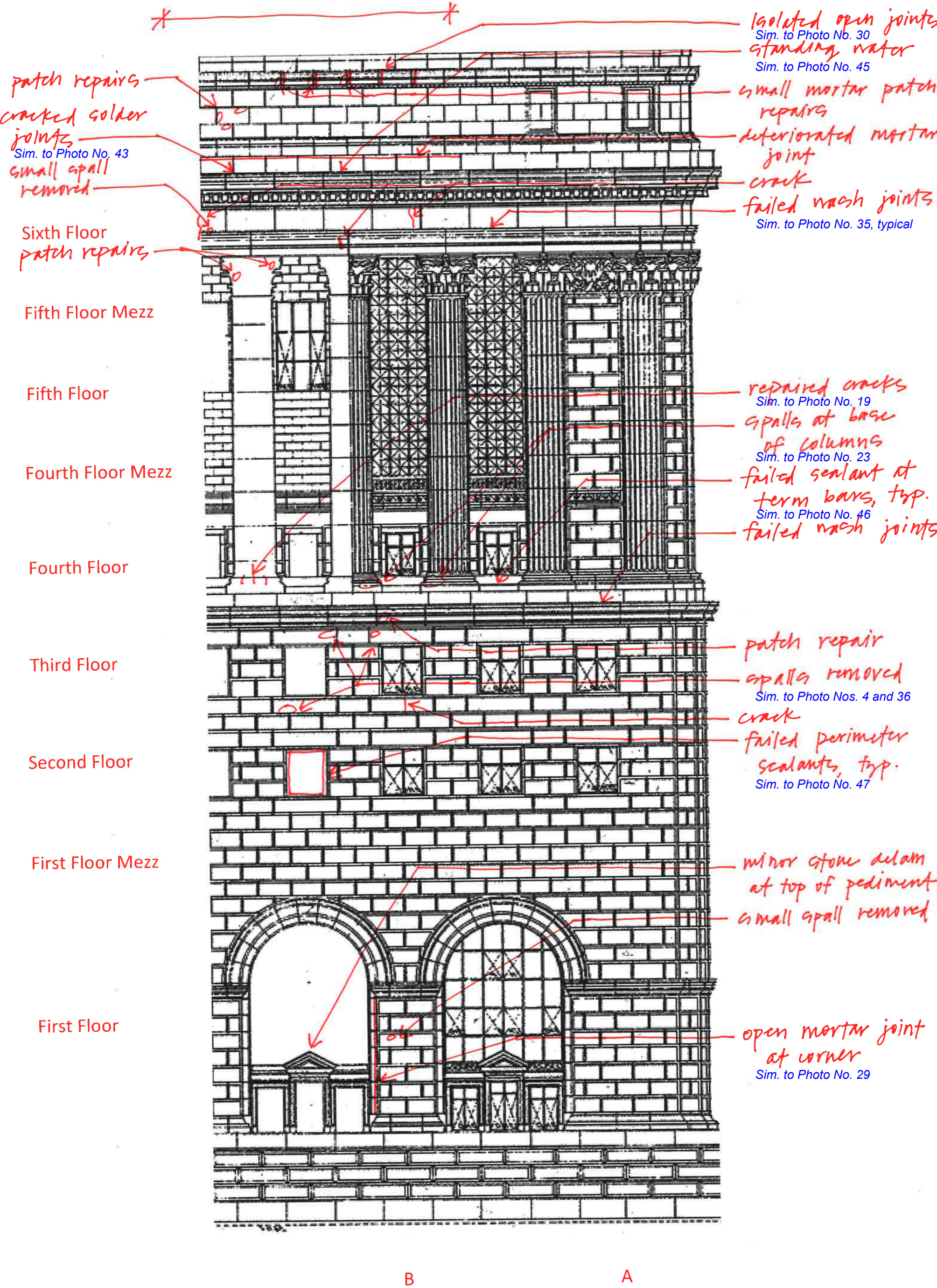
* = Urgent Removal / Repair



B/25/10

* Urgent Removal/Repair

Drop No. 16



8/24/16

* = Urgent Removal / Repair

Drop No. 16 a

Sixth Floor

Fifth Floor Mezz

Fifth Floor

Fourth Floor Mezz

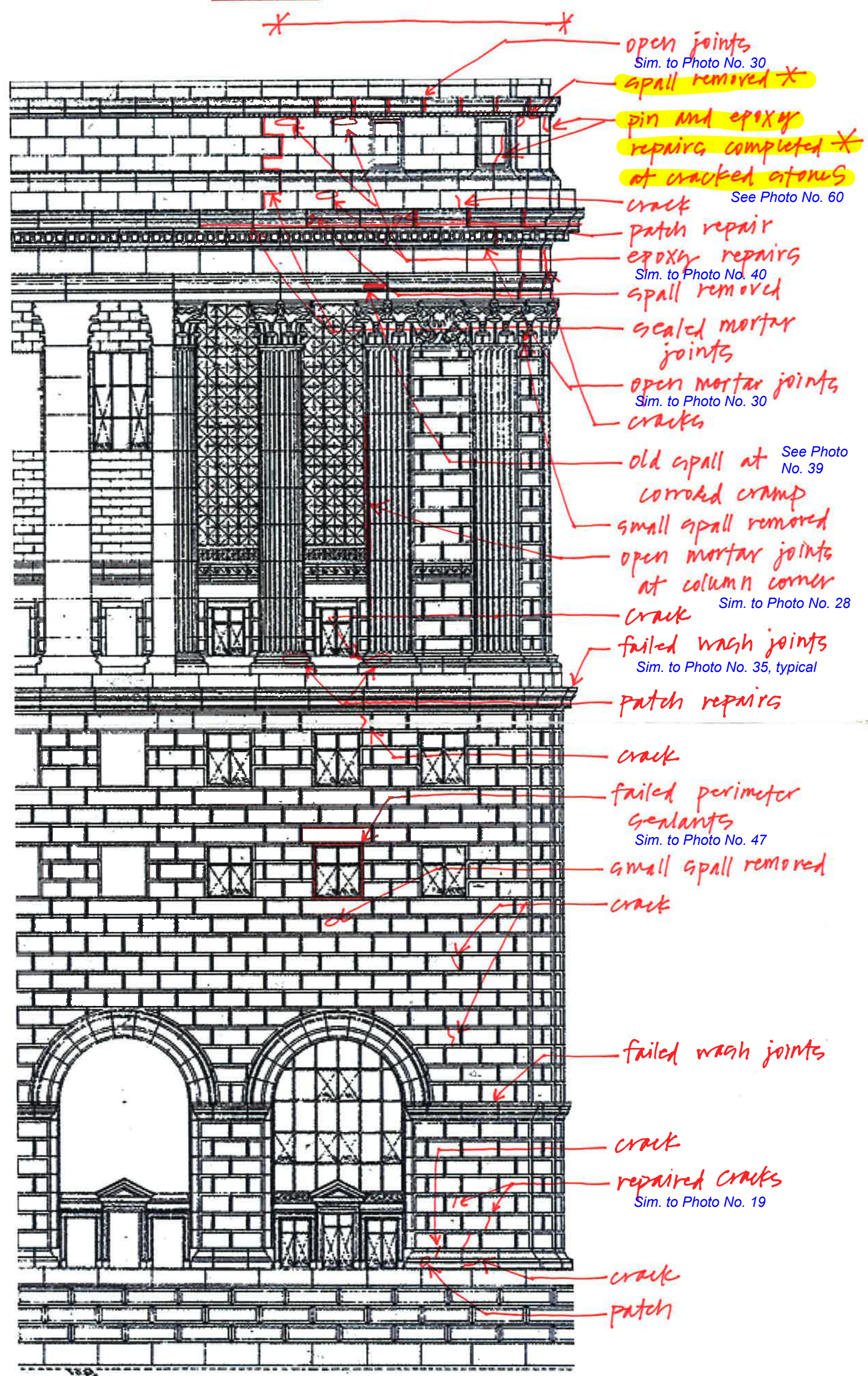
Fourth Floor

Third Floor

Second Floor

First Floor Mezz

First Floor



B

A

* = Urgent Removal/Repair

Open wash joints * Sim. to Photo No. 35, typical

crack *

open joint Sim. to Photo
No. 30, typical

patch

Spall

Spall * Sim. to Photo No. 3

failed wash joints

Parapet ** crack*

Sixth Floor

open mortar joint —

Fifth Floor Mezz

stack

open mortar joint

Fifth Floor

patches

spall / crack *

patch

SPM
See Photo No. 1

Fourth Floor Mezz

open mortar joint —

Fourth Floor

open mortar joint —

Third Floor

Second Floor

стек

First Floor Mezz

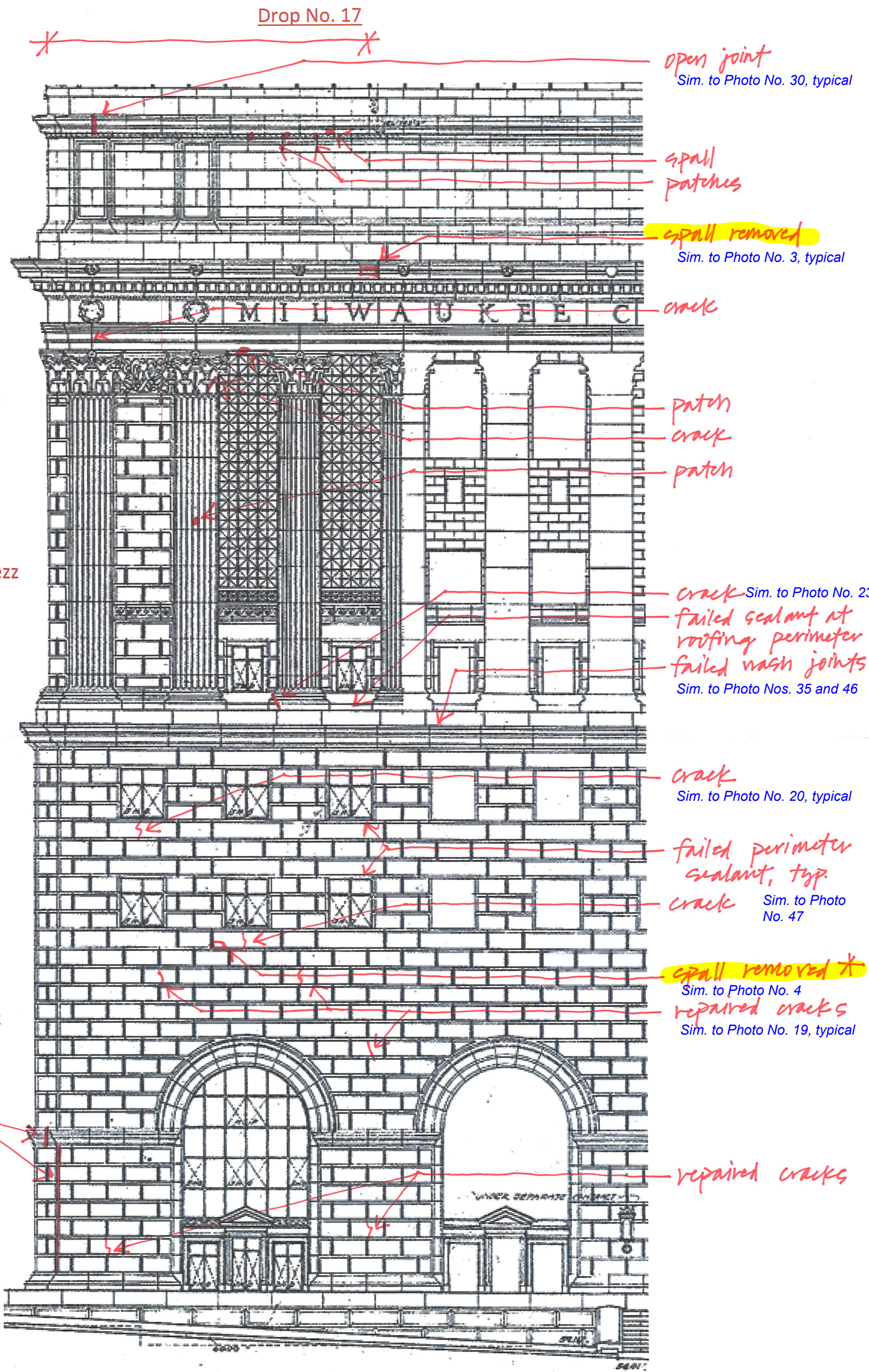
open mortar joint —

First Floor

failed wash joints

8/19/16

* = Urgent Removal / Repair



Drop No. 17

open joint
Sim. to Photo No. 30, typical

spall
patches

spall removed
Sim. to Photo No. 3, typical

crack

patch
crack
patch

crack Sim. to Photo No. 23
failed sealant at
roofing perimeter
failed wash joints
Sim. to Photo Nos. 35 and 46

crack
Sim. to Photo No. 20, typical

failed perimeter
sealant, typ.
crack Sim. to Photo
No. 47

spall removed *
Sim. to Photo No. 4
repaired cracks
Sim. to Photo No. 19, typical

repaired cracks

open mortar
joint
Sim. to Photo No. 8

Sixth Floor

Fifth Floor Mezz

Fifth Floor

Fourth Floor Mezz

Fourth Floor

Third Floor

Second Floor

First Floor Mezz

First Floor

6

5

4

8/17/16

* Urgent Removal / Repair

Drop No. 18



Sixth Floor

Fifth Floor Mezz

Fifth Floor

Fourth Floor Mezz

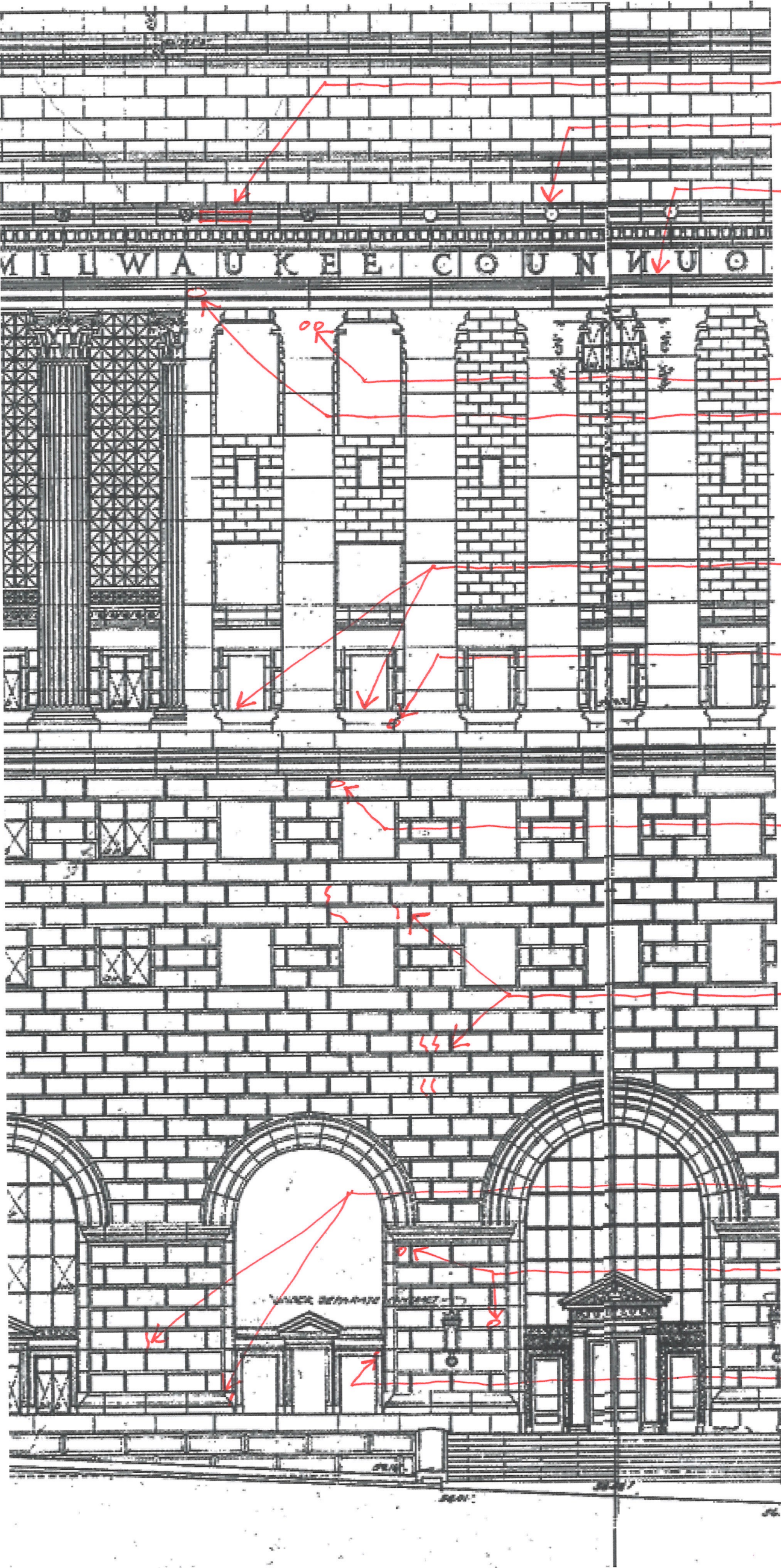
Fourth Floor

Third Floor

Second Floor

First Floor Mezz

First Floor



spall removed *

See Photo No. 3

cracked golder joints at gutter

Sim. to Photo No. 43

failed wash joints

Sim. to Photo No. 35

epoxy repairs

Sim. to Photo No. 40

patch repairs

failed sealant at roofing perimeter

Sim. to Photo No. 46

spall

spall

Sim. to Photo No. 36

repaired cracks

Sim. to Photo No. 19, typical

repaired cracks

spalls

crack

5

4

3

B / 18 / 16

* Urgent Removal / Repair

Drop No. 18a



Parapet

Sixth Floor

Fifth Floor Mezz

Fifth Floor

Fourth Floor Mezz

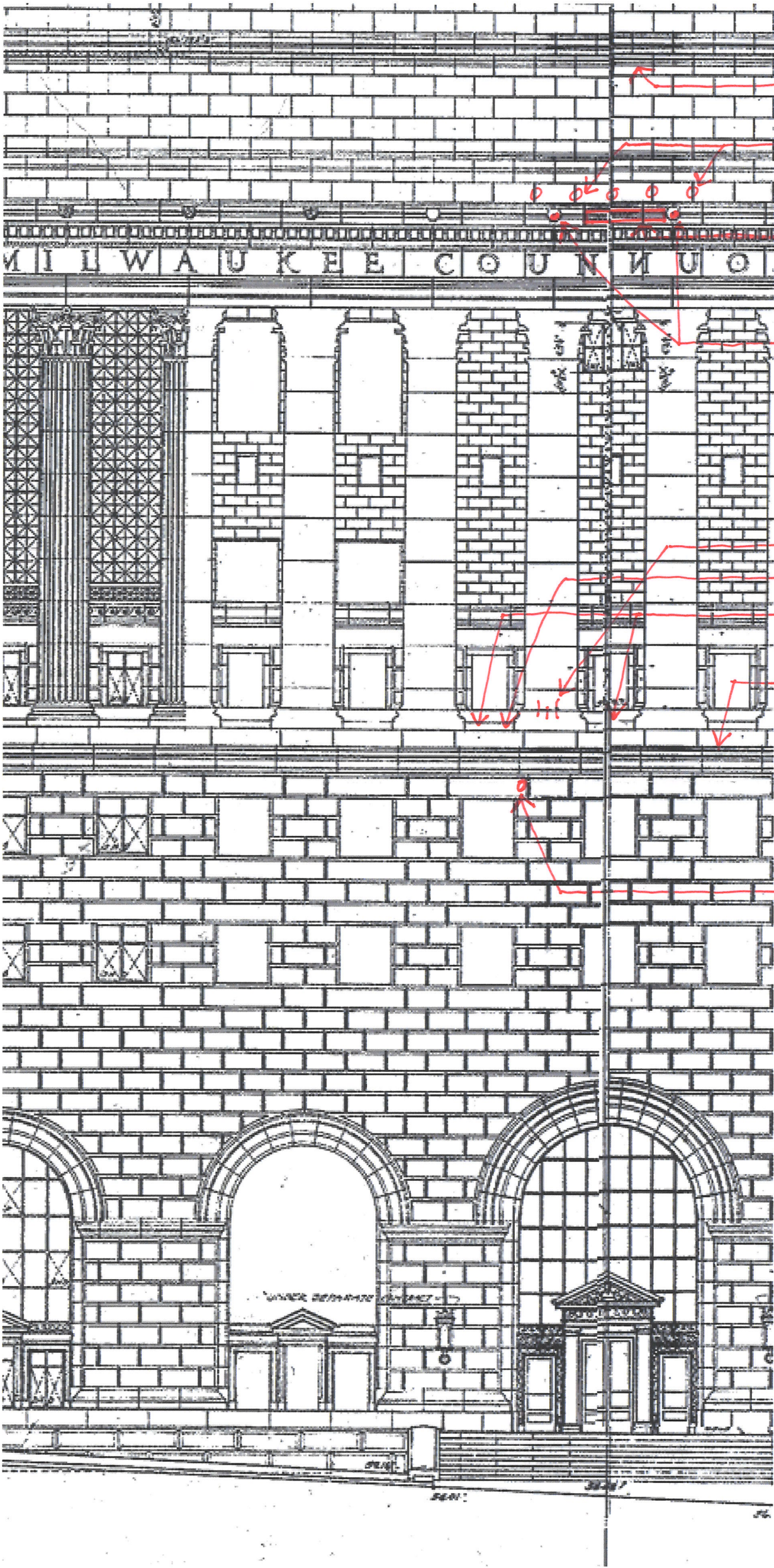
Fourth Floor

Third Floor

Second Floor

First Floor Mezz

First Floor



isolated open mortar joints
Sim. to Photo No. 30

spalls

large spall -
5 helical ties
installed X

epoxy repairs
Sim. to Photo No. 40

repaired cracks
spall removed X

sealant failed at roofing perimeter
failed wash joints
Sim. to Photo No. 35

spall

5

4

3

8/17/16

* = Urgent Removal / Repair

Drop No. 19

Parapet

Sixth Floor

Fifth Floor Mezz

Fifth Floor

Fourth Floor Mezz

Fourth Floor

Third Floor

Second Floor

First Floor Mezz

First Floor

spalls
clogged roof drain
Sim. to Photo No. 45

spall removed *
Sim. to Photo No. 3

failed wash joints
Sim. to Photo No. 35, typical

dutchman repair
See Photo No. 41

repaired crack

failed sealant at
roofing perimeter
See Photo No. 46

failed wash joints

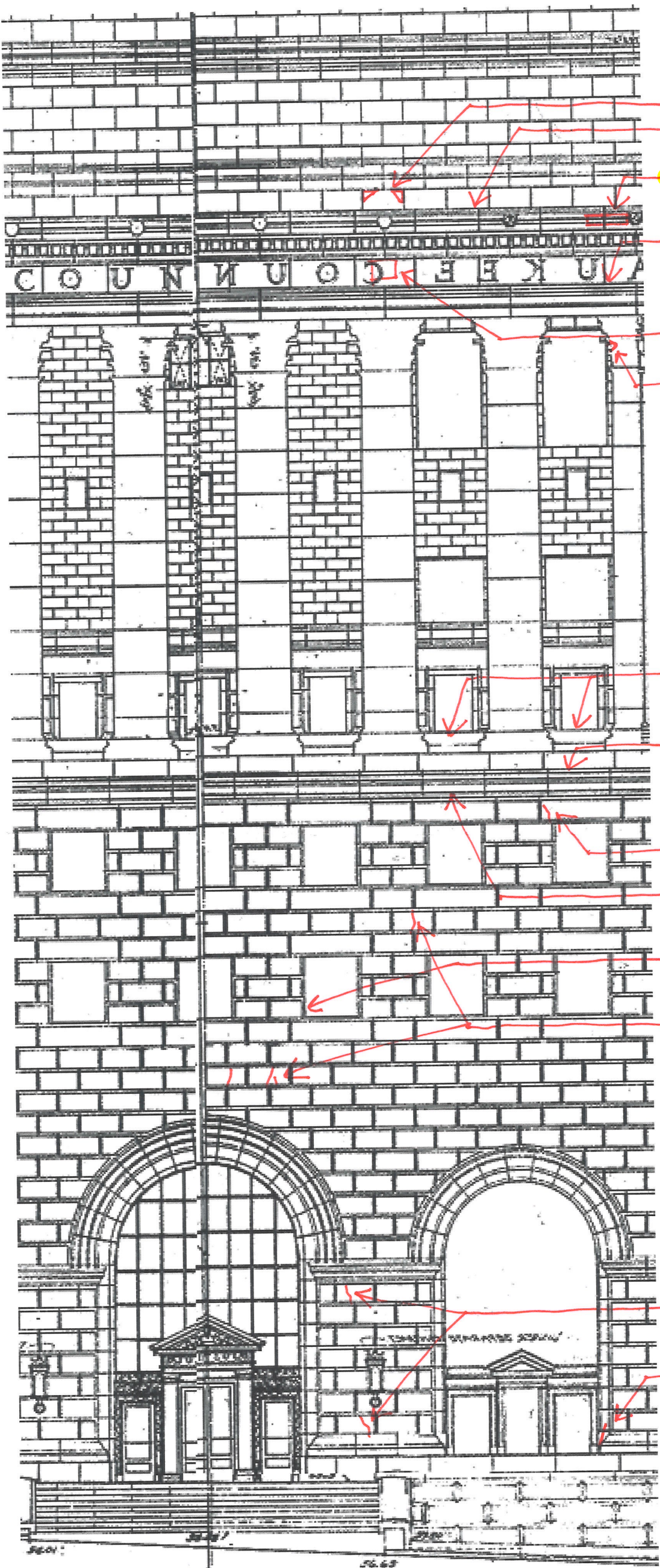
crack
isolated open mortar
joints Sim. to Photo No. 30

crack at jamb

repaired cracks
Sim. to Photo No. 19, typical

crack

repaired crack



8/16/16

* = Urgent Removal/Repair

Drop No. 20

Parapet

Sixth Floor

Fifth Floor Mezz

Fifth Floor

Fourth Floor Mezz

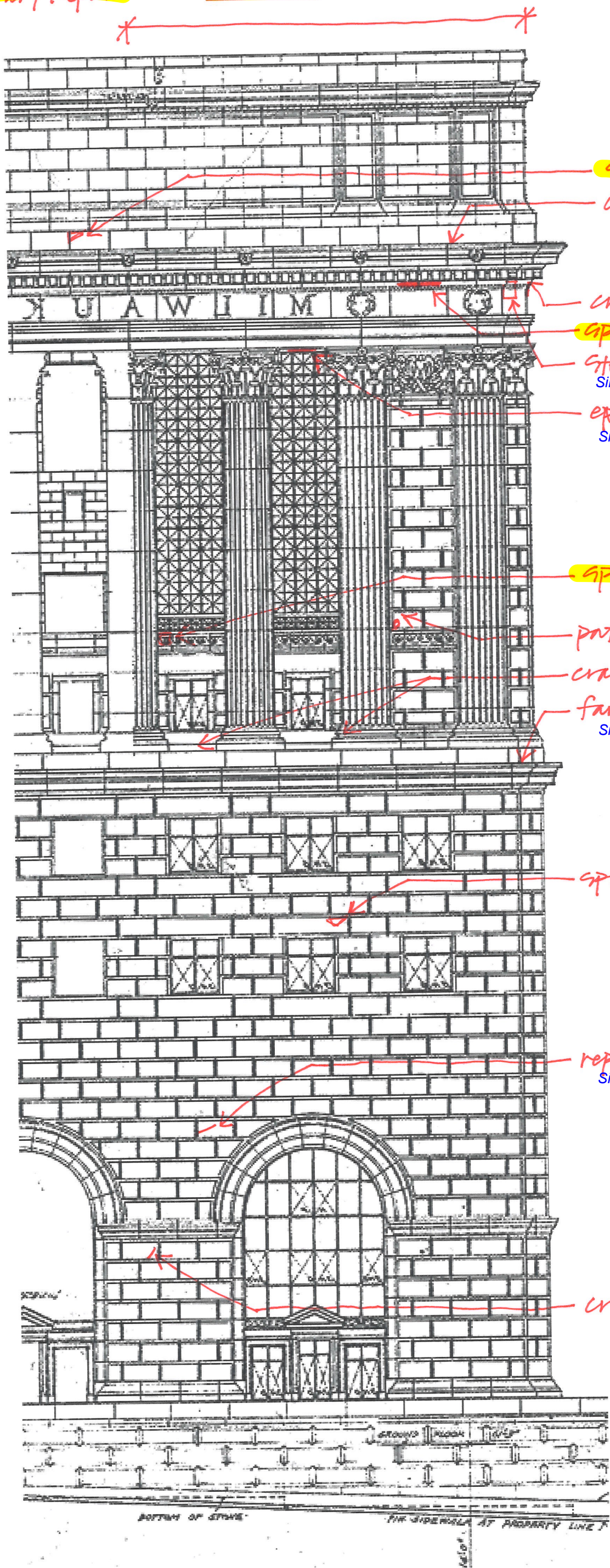
Fourth Floor

Third Floor

Second Floor

First Floor Mezz

First Floor



spall *

cracked soldier joints at gutter

Sim. to Photo No. 43

crack

spall removed *

Sim. to Photo No. 3

stone dutchman

Sim. to Photo No. 41

epoxy repair

Sim. to Photo No. 40

spall removed *

patch repair

crack

failed wash joints

Sim. to Photo No. 35

spall

repaired crack

Sim. to Photo No. 19

crack

8/25/16, 8/31/16

* = Urgent Removal/Repair

Surface delamination removed
Sim. to Photo No. 26
Surface deterioration
Sim. to Photo No. 24

Drop No. 21

Drop No. 22

Drop No. 23

Surface deterioration/
delamination
Sim. to Photo Nos. 24 and 26

open joints
stone displaced
at bottom
See Photo No. 10
Spall removed

Spall
corner stone
slightly displaced

Eighth Floor Mezz
open mortar joints

* Spalls removed
See Photo No. 5

Eighth Floor
patch repairs
cracks

Seventh Floor Mezz

* Spall removed
Sim. to Photo No. 5
repaired crack

Seventh Floor

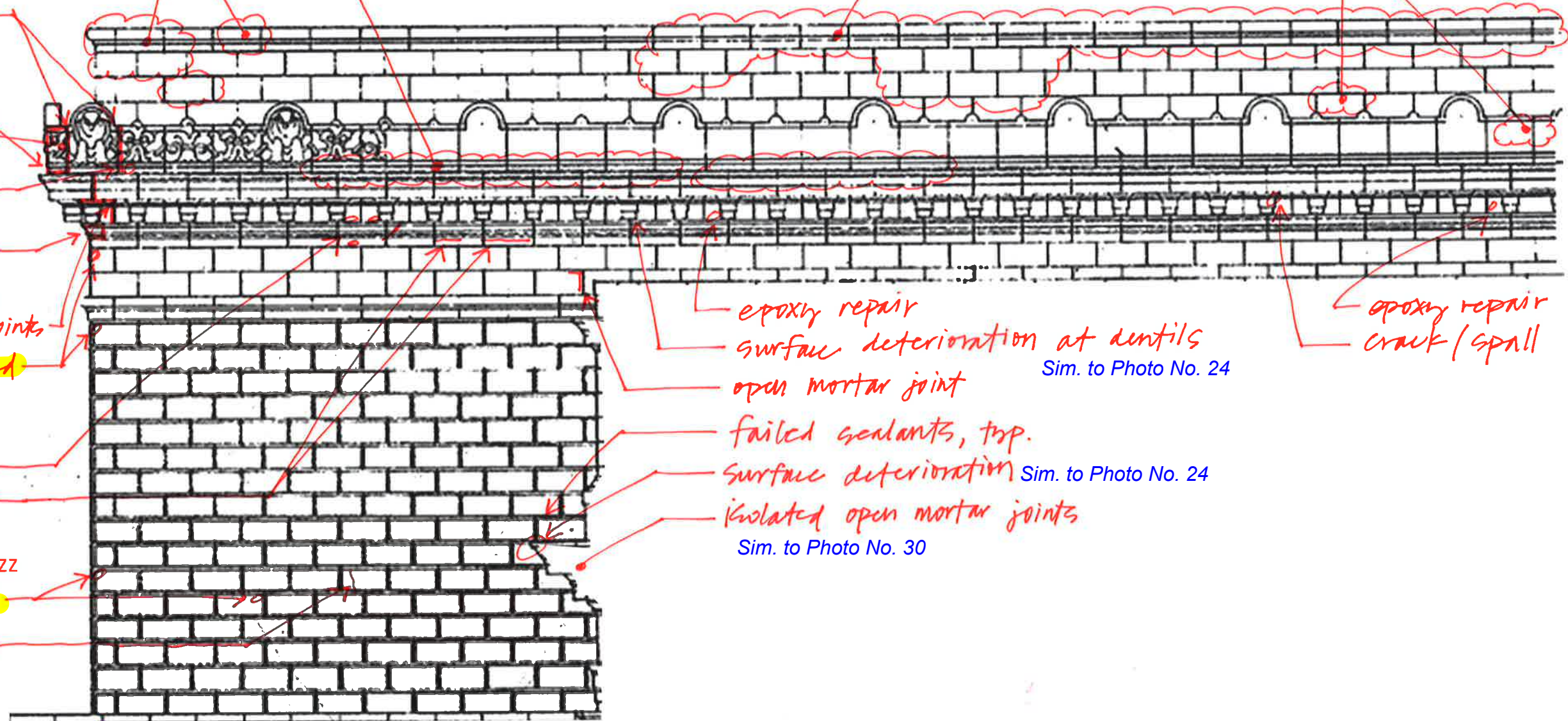
* G.G. straps
installed at cracked
corner stones
See Photo No. 59

cracked brick sealed
See Photo No. 48

epoxy repair
surface deterioration at dentils
Sim. to Photo No. 24
open mortar joint

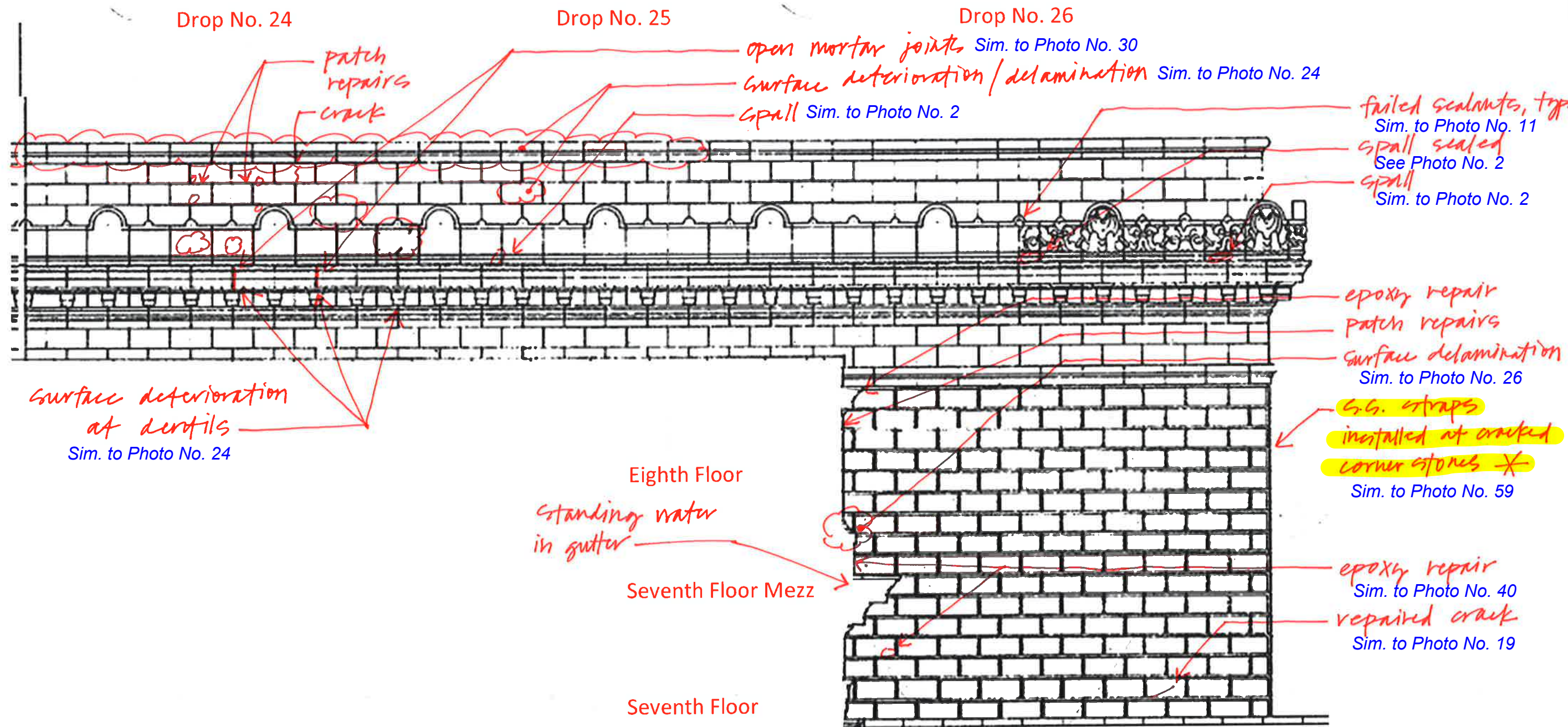
failed sealants, typ.
Surface deterioration
Sim. to Photo No. 24
isolated open mortar joints
Sim. to Photo No. 30

epoxy repair
crack/spall



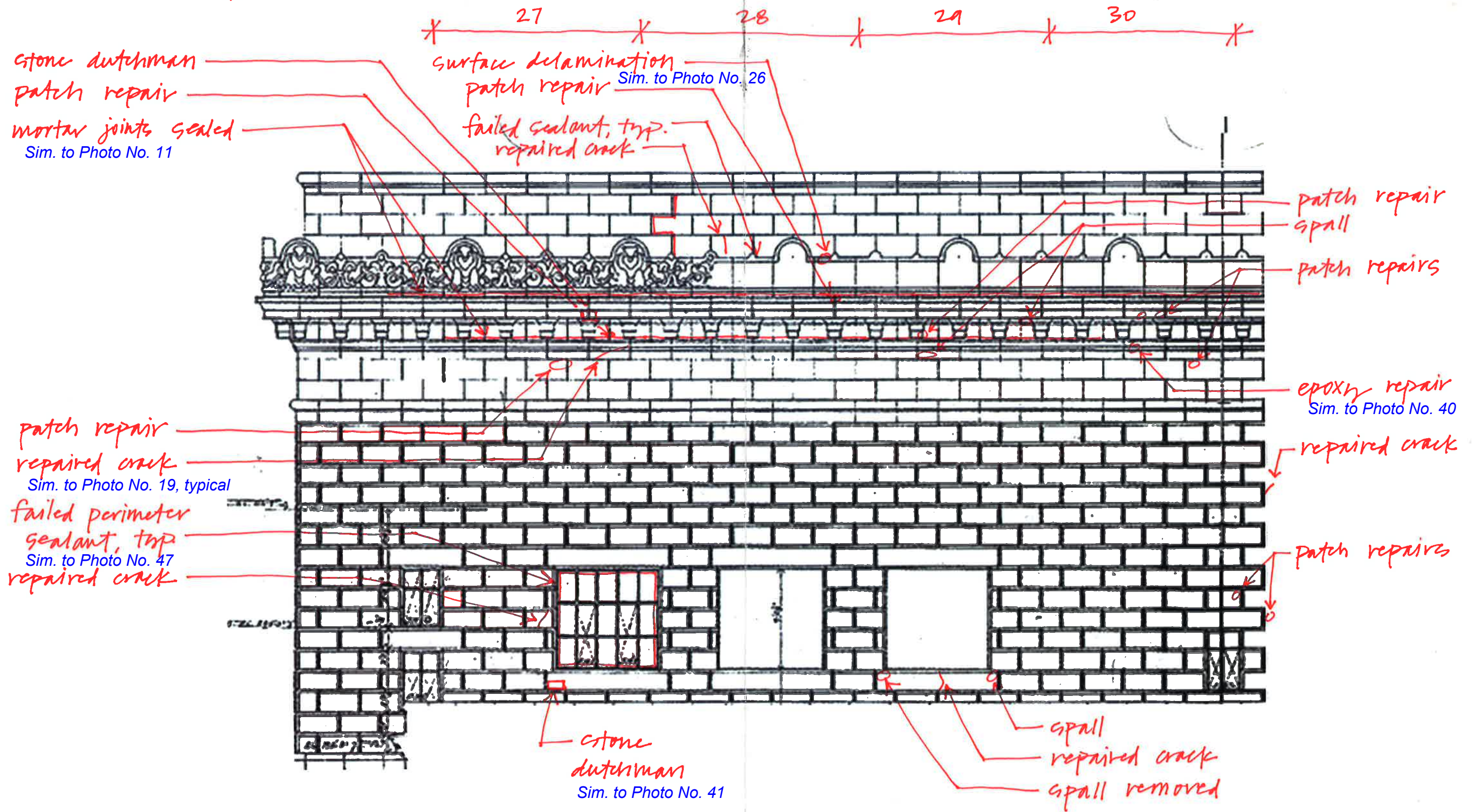
8/25/16, 9/7/16

* = Urgent Removal/Repair



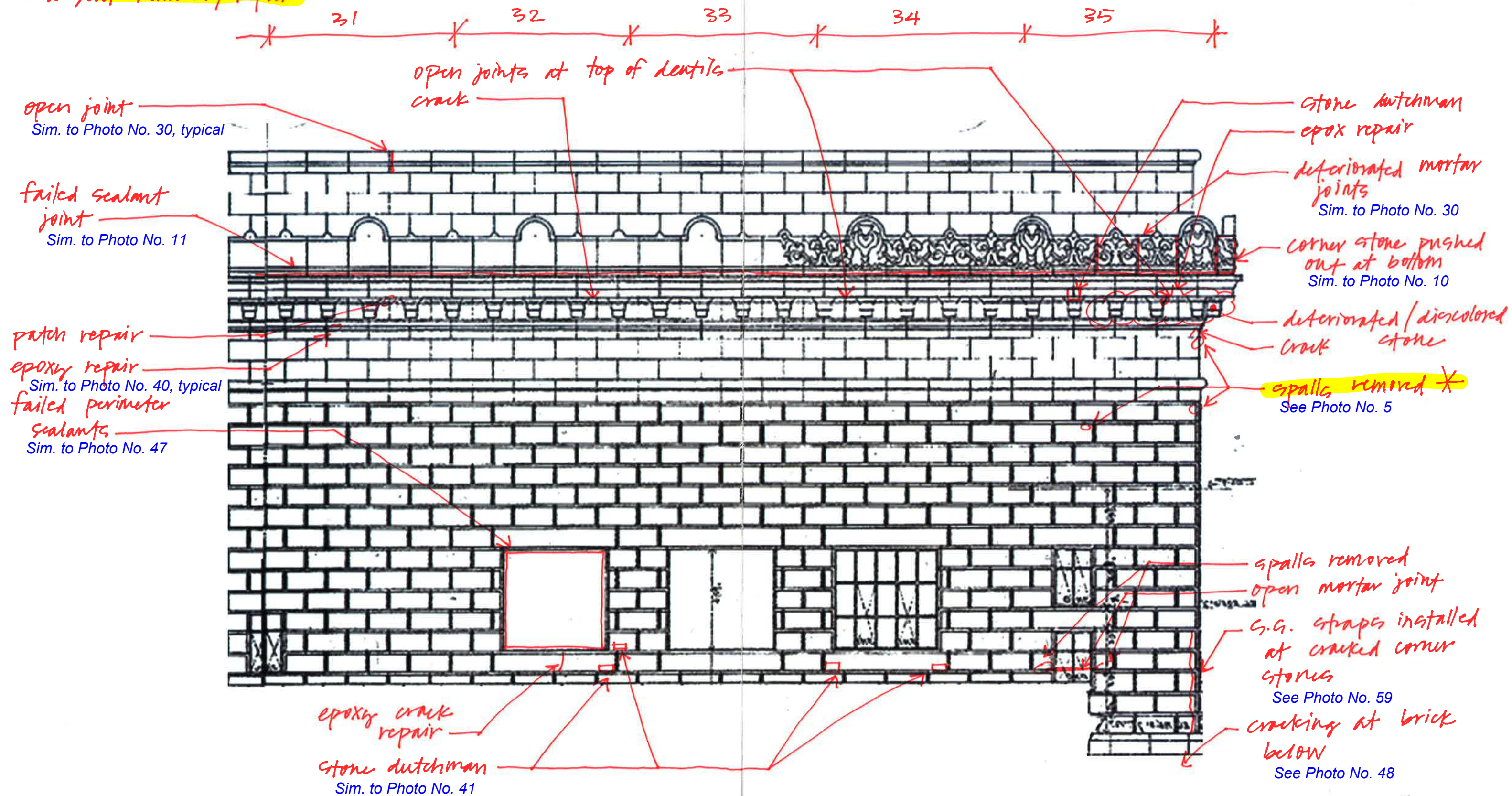
8/26/16 - 8/27/16

* = Urgent Removal/Repair



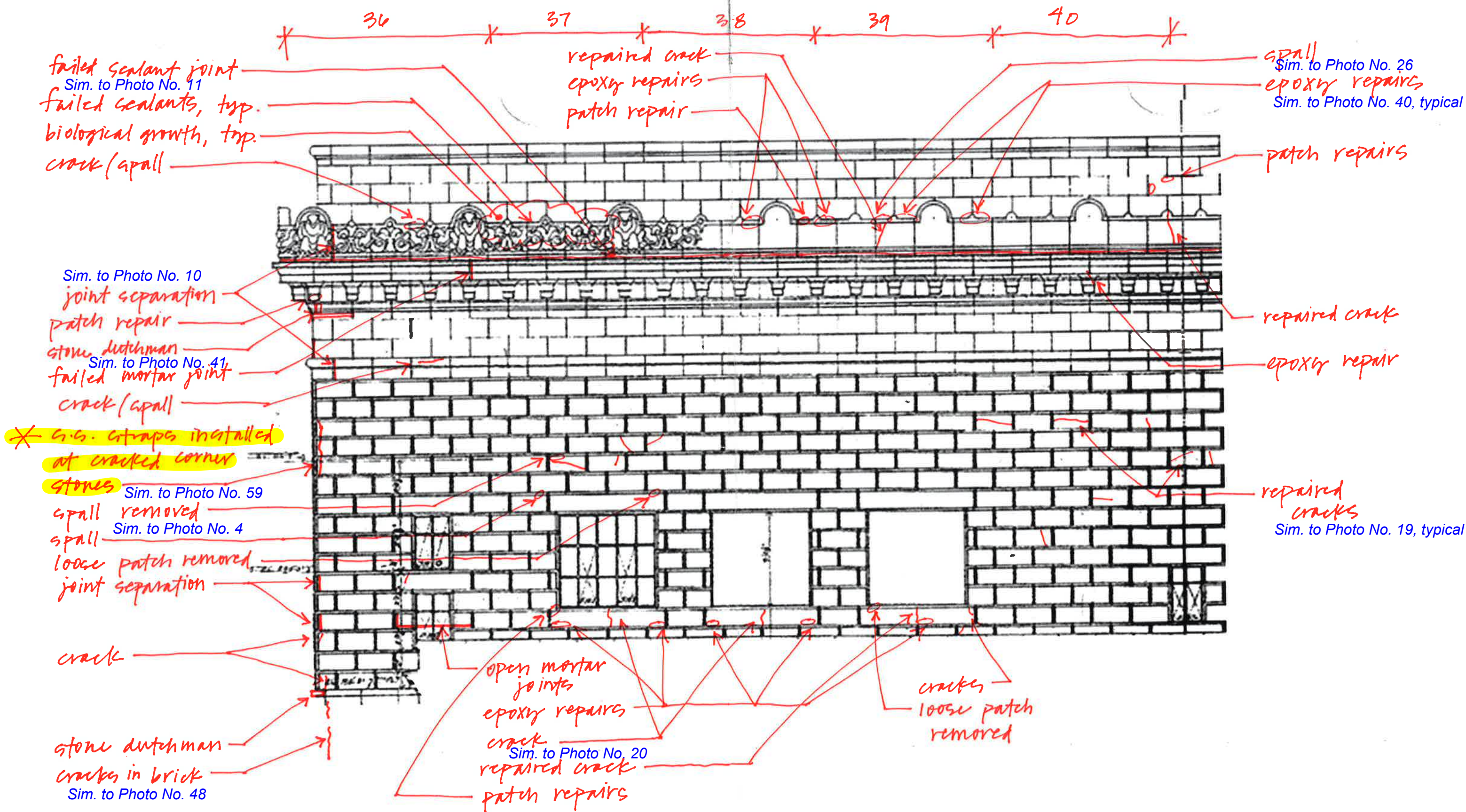
8/26/16 - 8/29/16

* = Urgent Removal/Repair



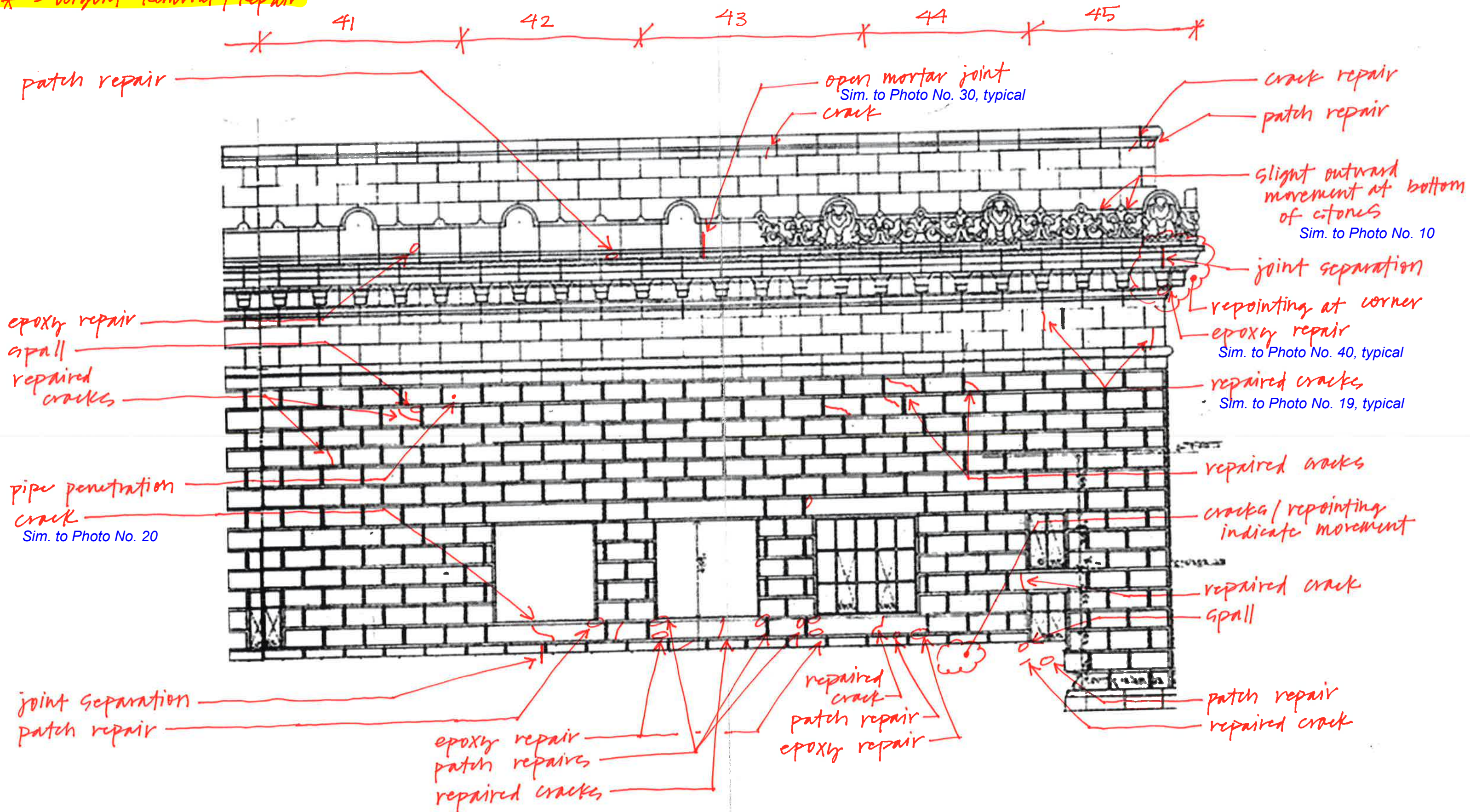
9/8/16

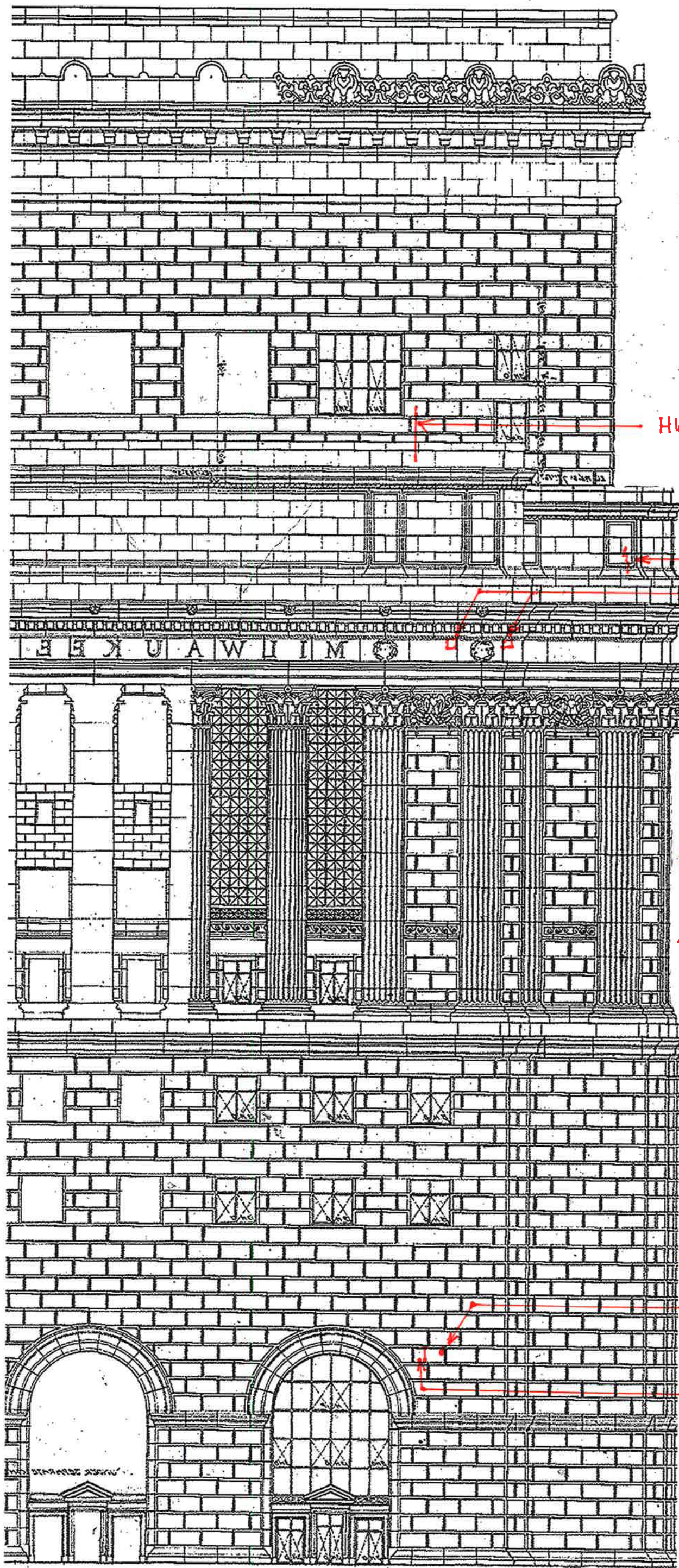
* = Urgent Removal/Repair



9/9/16

* = Urgent Removal / Repair





HIGH REACH LIFT

PATCHED CRACK

STONE DUTCHMEN

6

5 MEZZ

5

4 MEZZ

4

3

2

PATCH

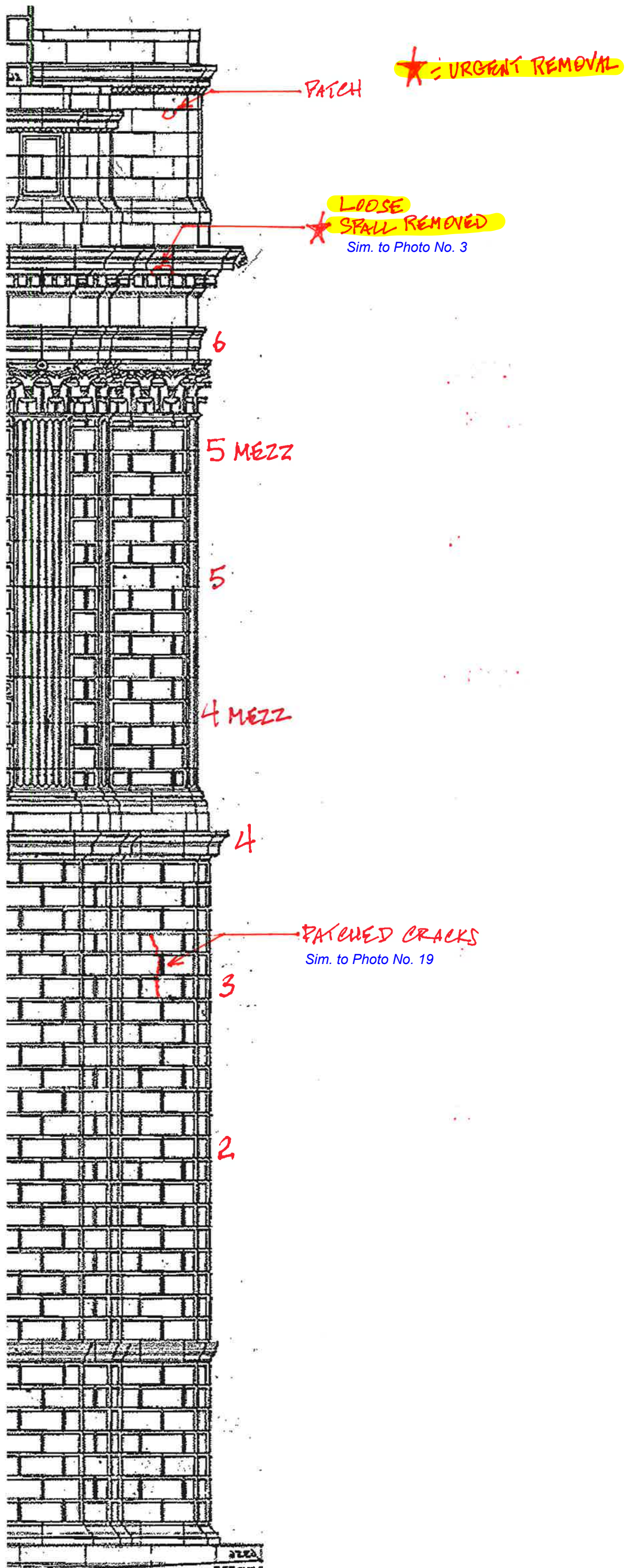
STONE DUTCHMAN

NORTH ELEVATION

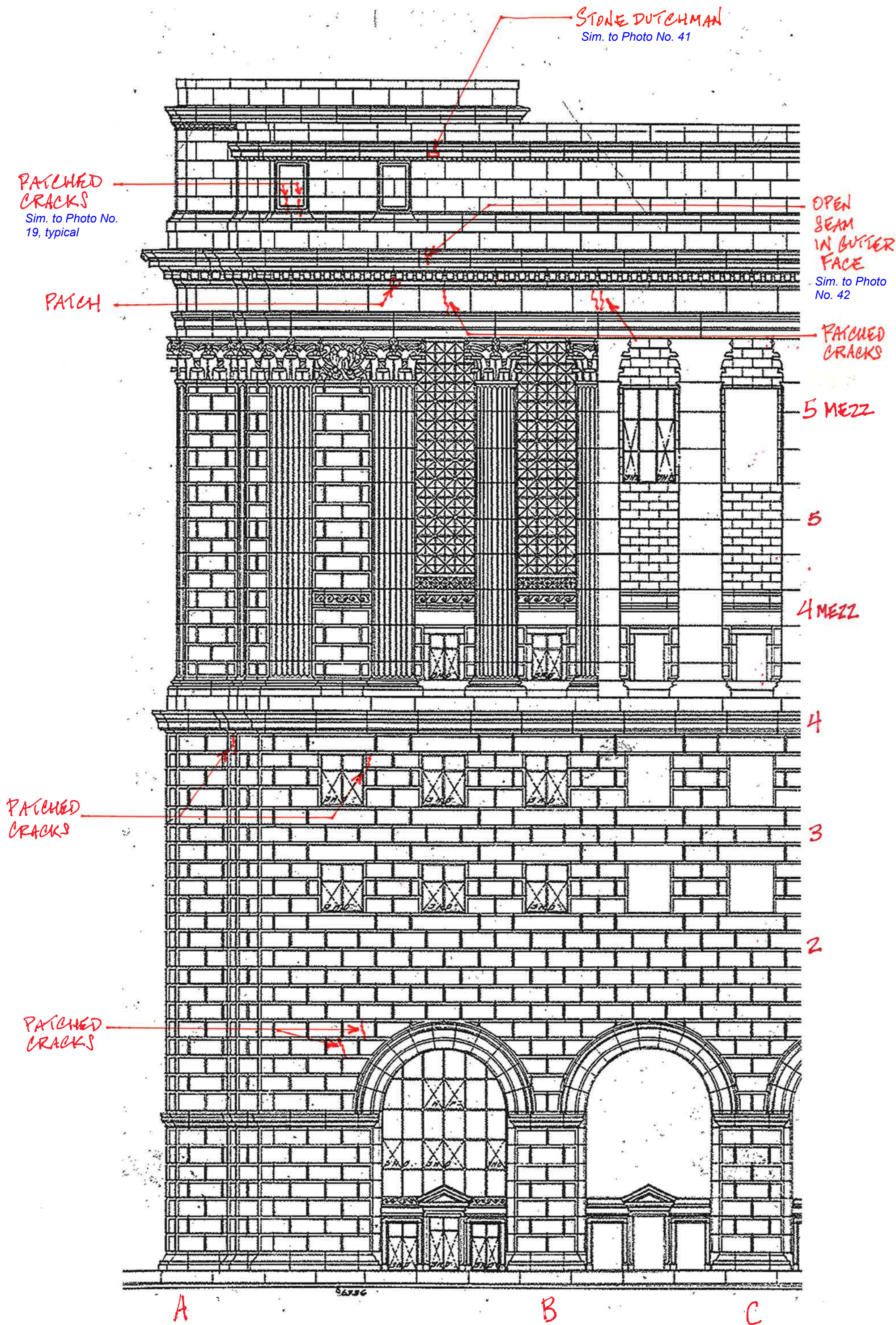
5

6

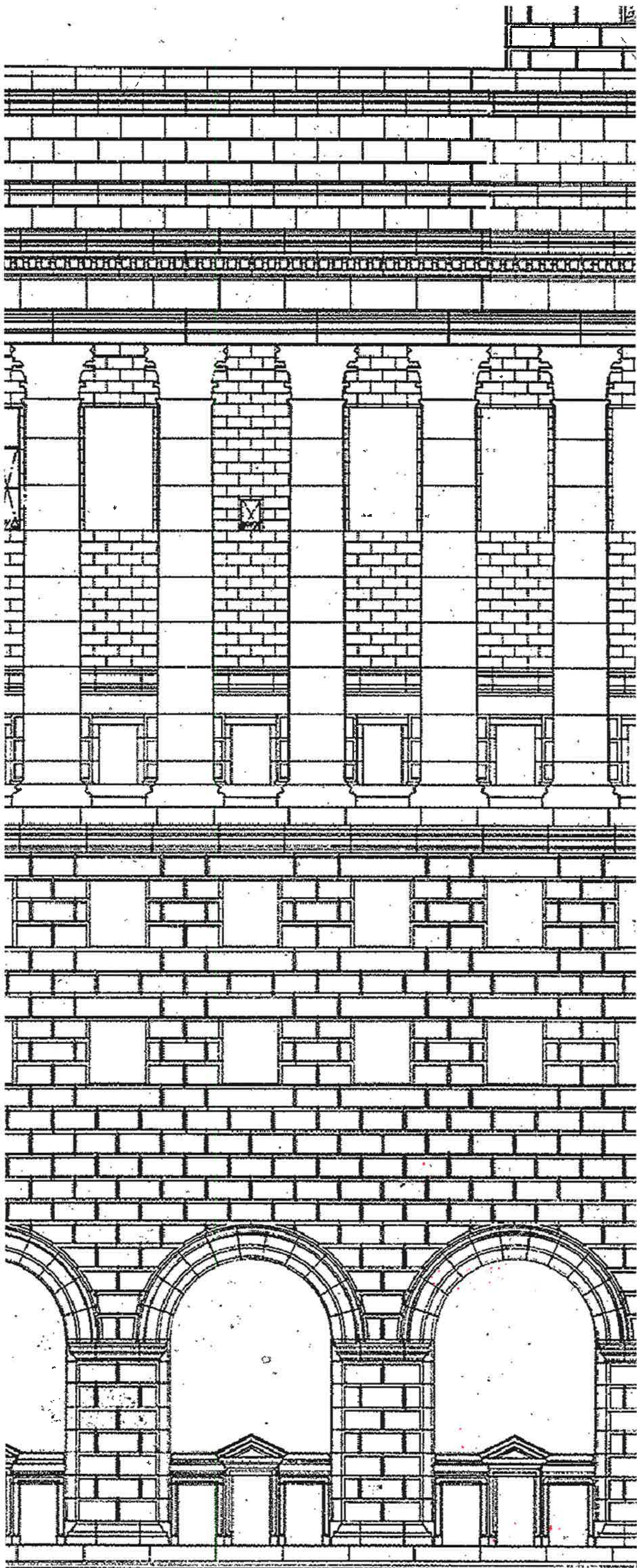
7



NORTH SETBACK-WEST ELEV.



WEST ELEVATION



6

5 MEZZ

5

4 MEZZ

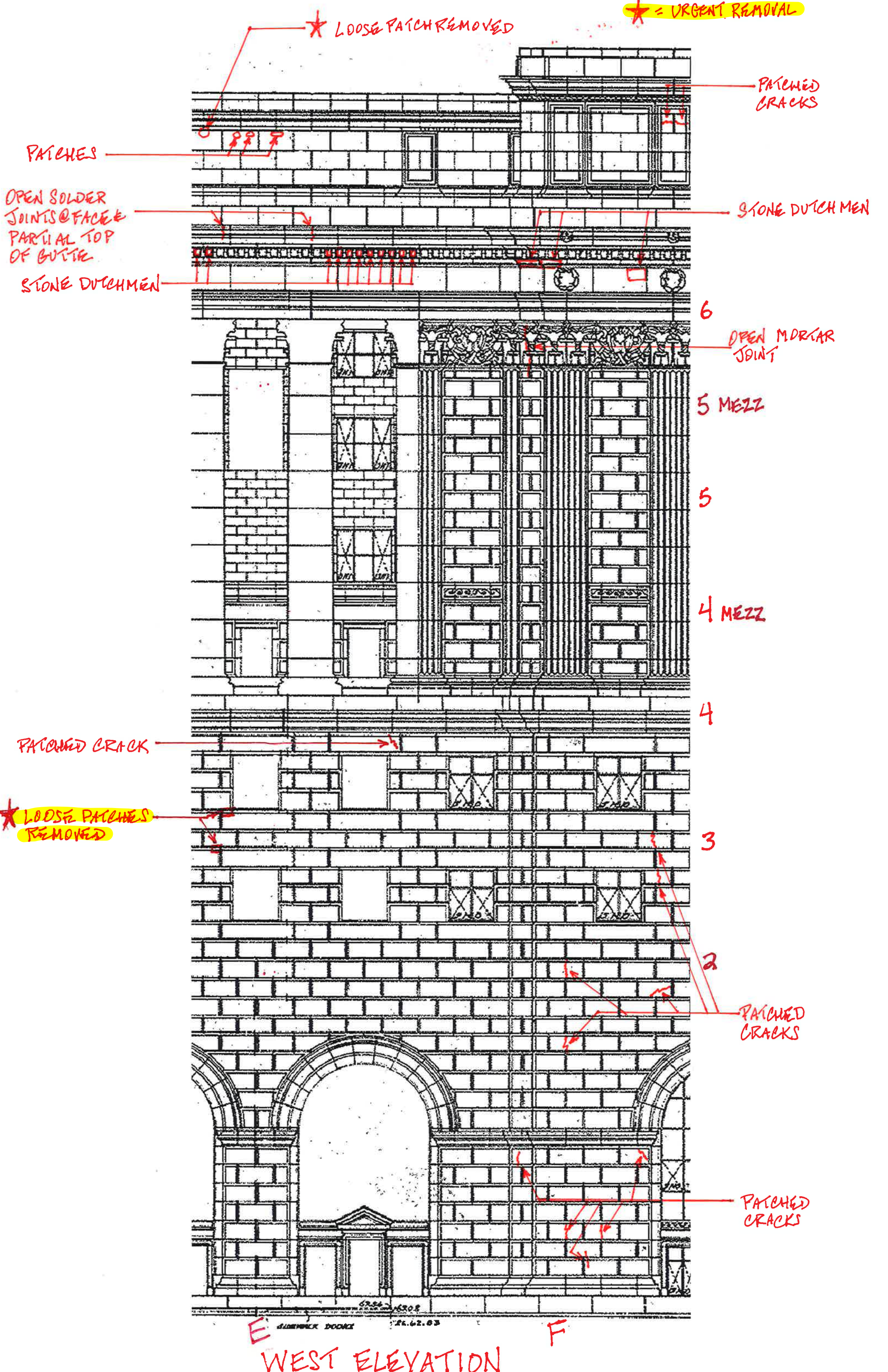
4

3

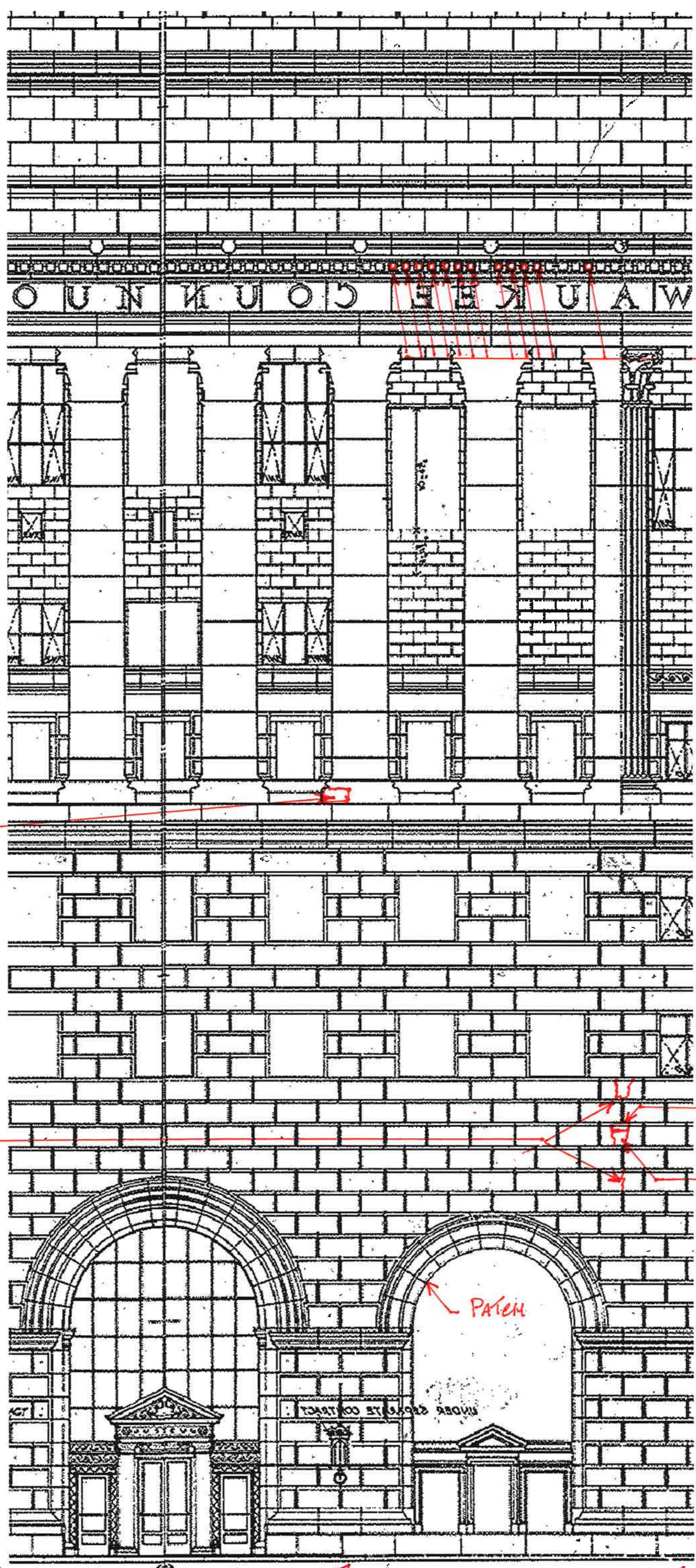
2

C
WEST ELEVATION
D

E



★ URGENT REPAIR



6 STONE DITCHMEN
Sim. to Photo No. 22

5 MEZZ

5

4 MEZZ

4

3

★ REMOVE LOOSE SPALL & PATCH
★ INSTALL 2 HELICAL TIES AT DELAMINATED PORTION OF STONE

MORI TIME 2 HRS.

See Photo No. 13

PATCH

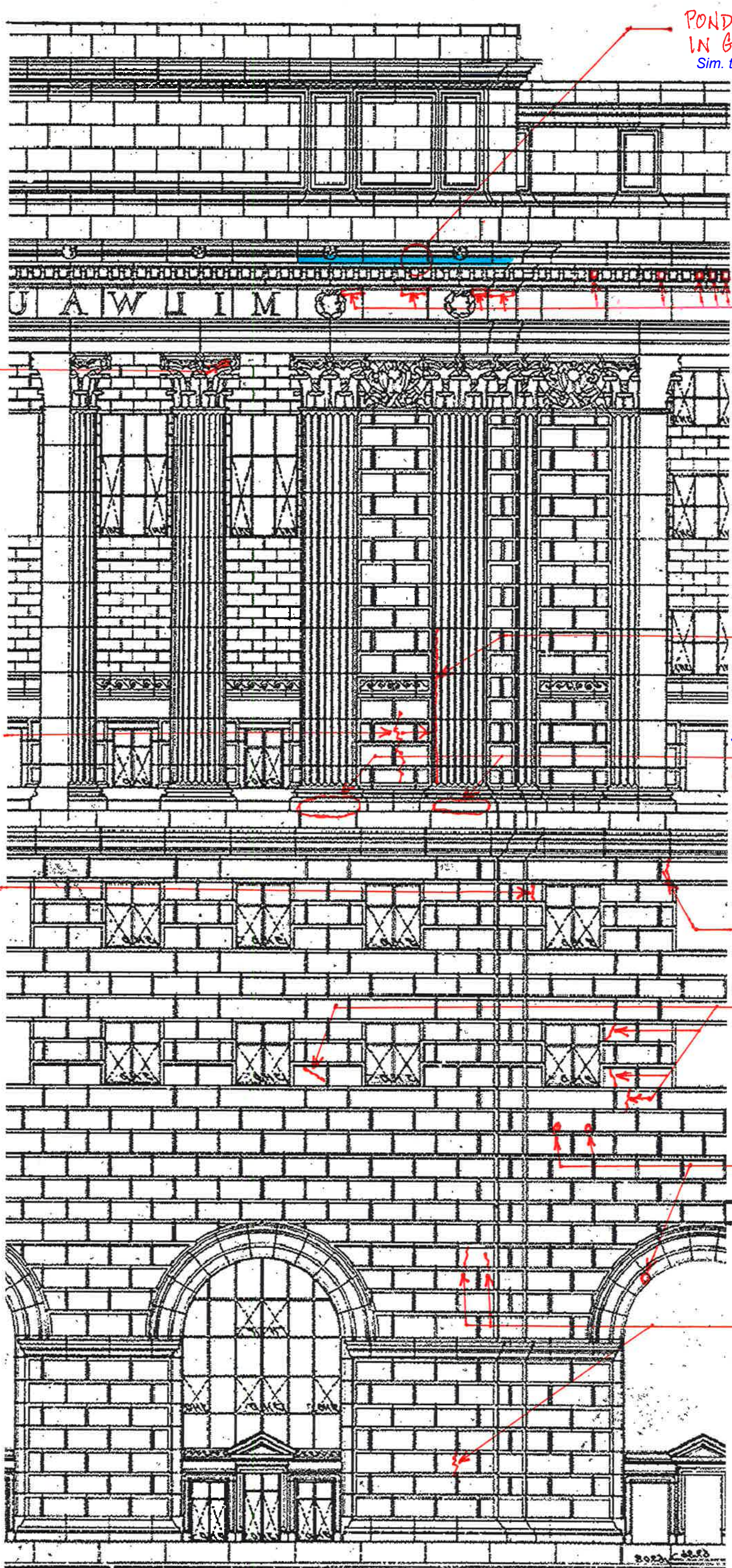
PATCHED CRACKS

Sim. to Photo No. 19, typical

PATCH

WEST ELEVATION

★ = URGENT REMOVAL/REPAIR



PONDING WATER
IN GUTTER
Sim. to Photo No. 45

STONE
DUTCHMEN
Sim. to Photo No. 22

★
SMALL SPALL
REMOVED

6
5 MEZZ

5
SEPERATION IN
MORTAR JOINT
@ CORNER
Sim. to Photo No. 28

PATCHED CRACK @
NORTH FACE OF
PIER

4 MEZZ
Sim. to Photo Nos. 17 and 18
★ LOOSE PATCH
★ MATERIAL
REMOVED -
OPENINGS &
4 CRACKS SEALED
MRI TIME
2 HRS.

PATCHED CRACK

★ SPALL REMOVED
OPENING
SEALED

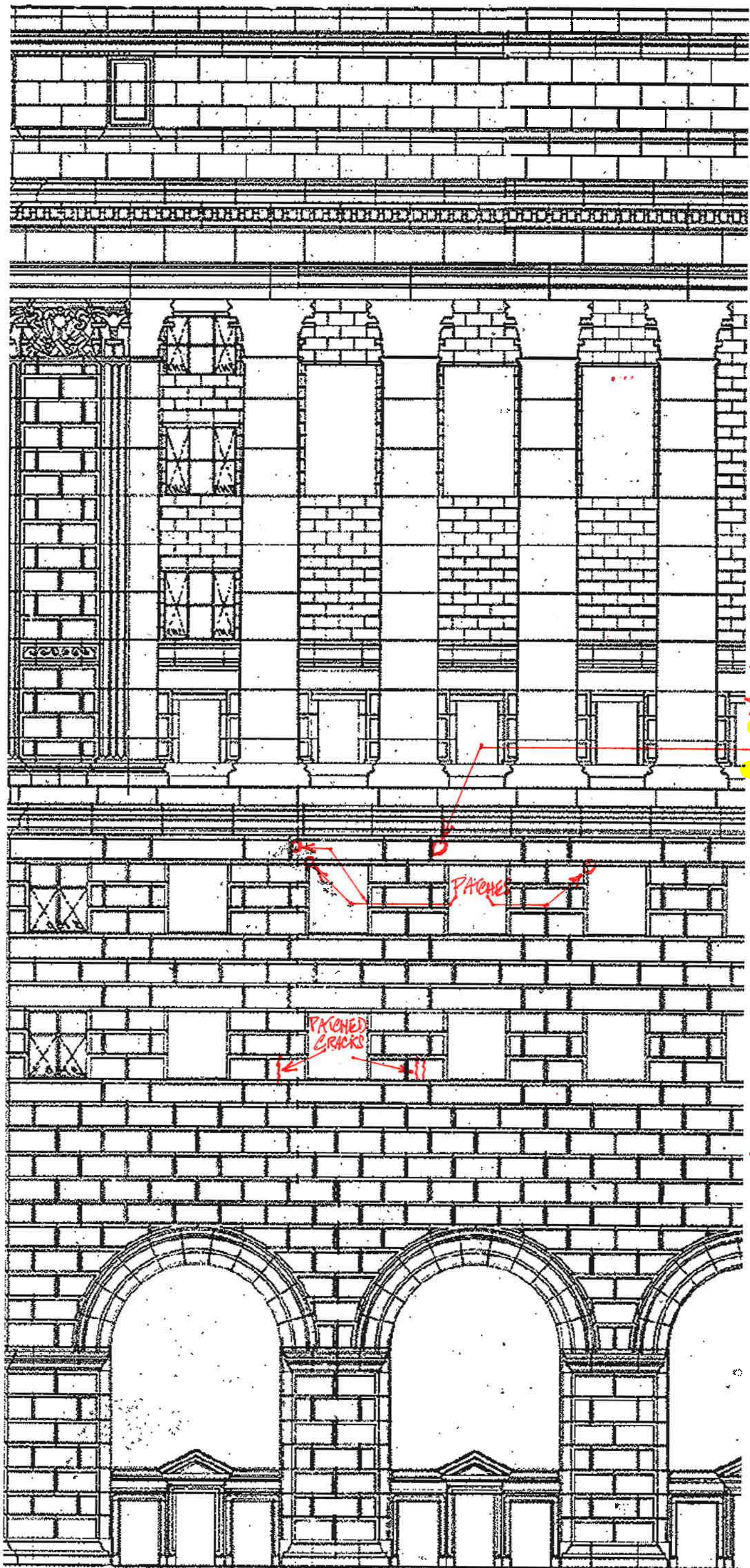
3
PATCHED
CRACKS
Sim. to Photo No.
19, typical

2
PATCHES

PATCHED
CRACKS

J K
WEST ELEVATION

★ = URGENT REMOVAL/REPAIR



6

5 MEZZ

5

4 MEZZ

★

SPALL REMOVED
OPENINGS
SEALED

See Photo No. 36

4

3

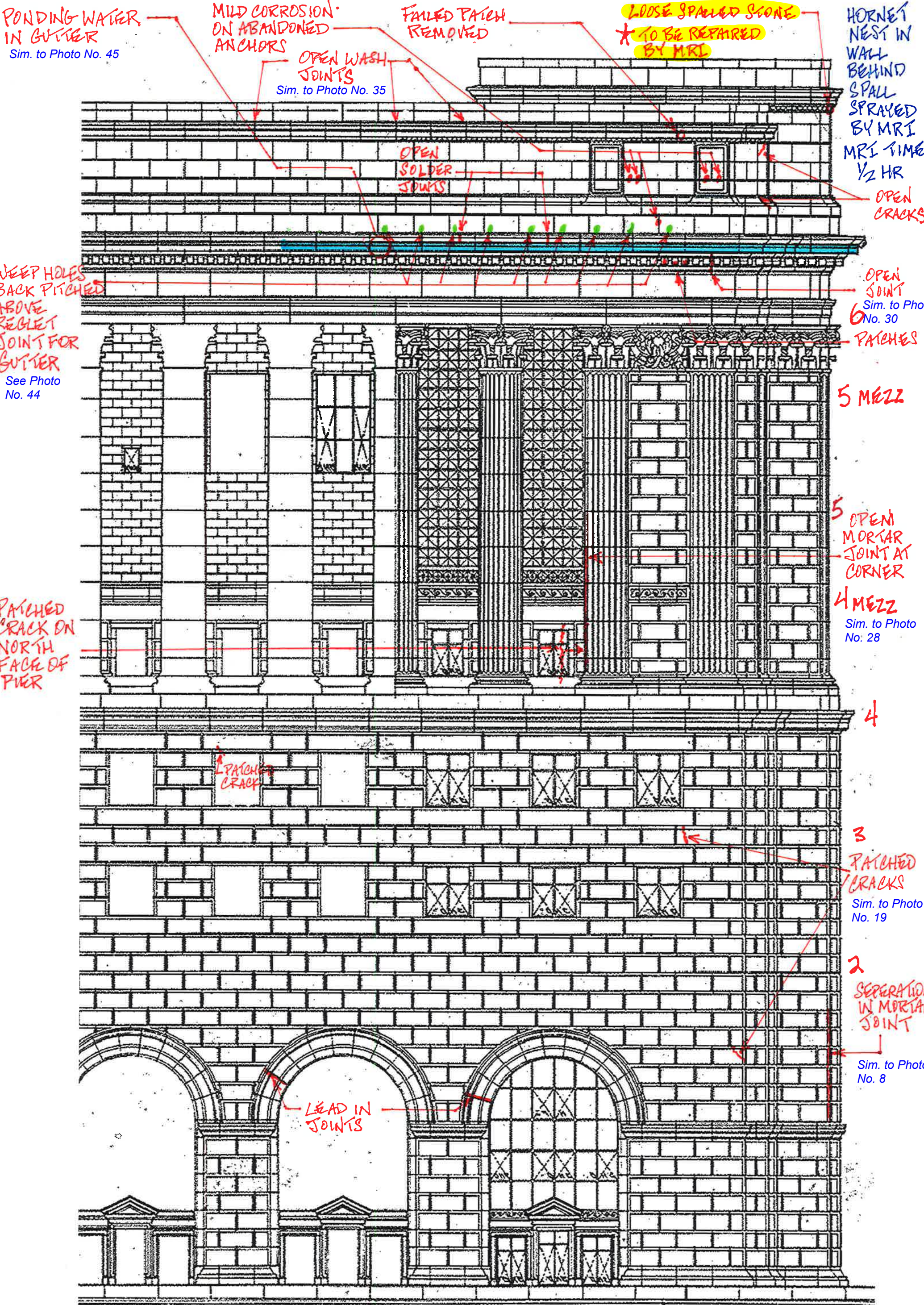
2

K

L

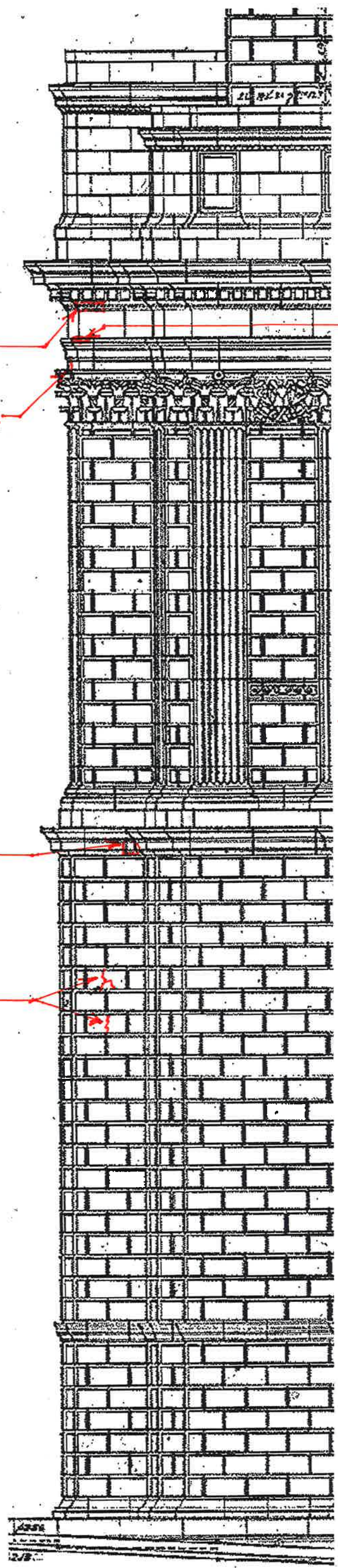
M

WEST ELEVATION



★ = URGENT REPAIR/STABILIZATION

★ URGENT REMOVAL



DUTCHMAN OK
Sim. to Photo No. 41

EPOXIED CRACK OK
Sim. to Photo No. 40

PATCH OK

6

5 MEZZ

5

4 MEZZ

4

★ LOOSE SPALLS REMOVED

PATCHED
CRACKS
Sim. to Photo No. 19

3

2

SOUTH SET BACK - WEST ELEVATION

★ URGENT REPAIR / STABILIZATION

HIGH LIFT
SMALL PATCH
DROP #1

OPEN JOINT
FAILED PATCH
REMOVED

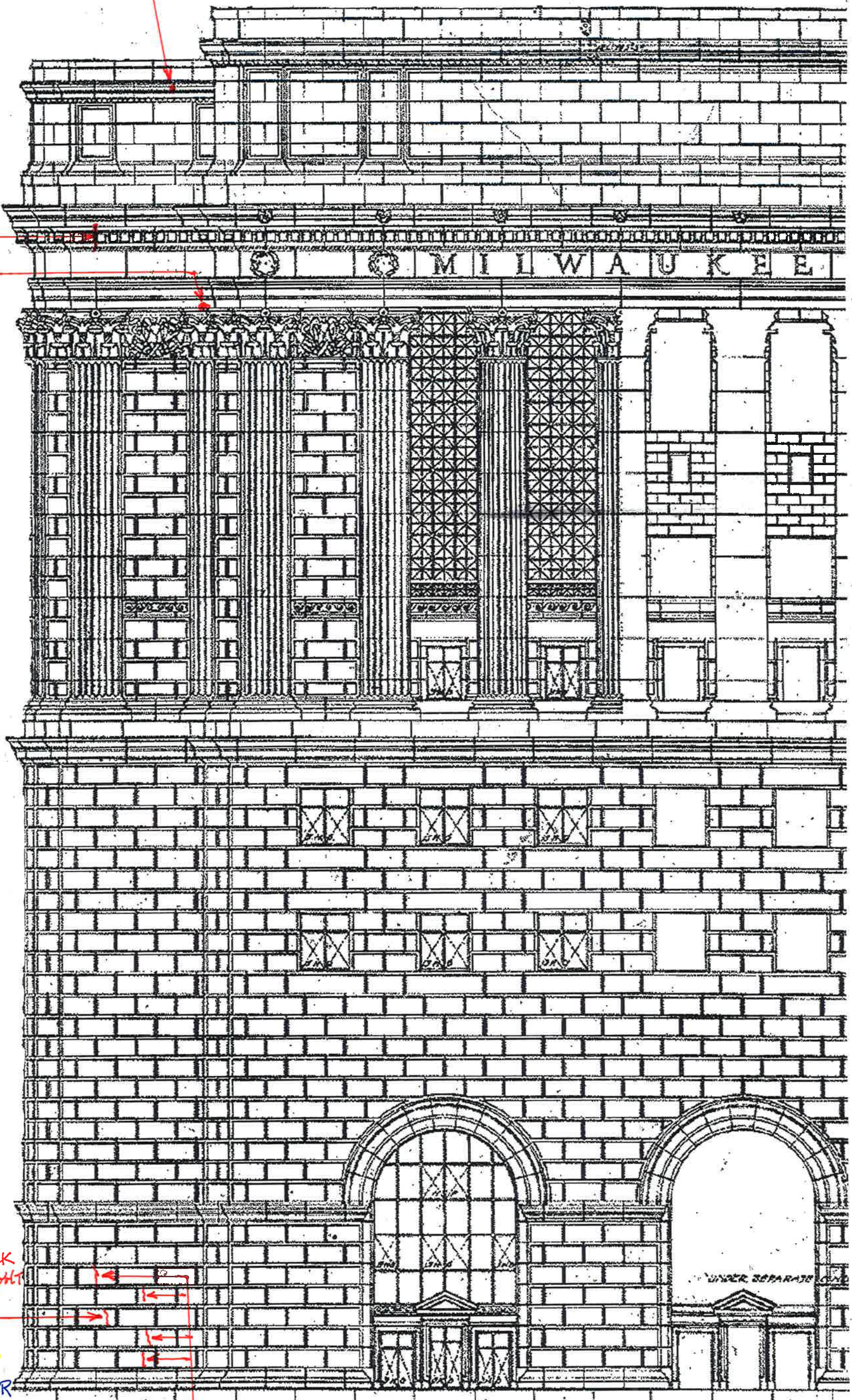
6
5 MEZZ
5
4 MEZZ
4
3
2

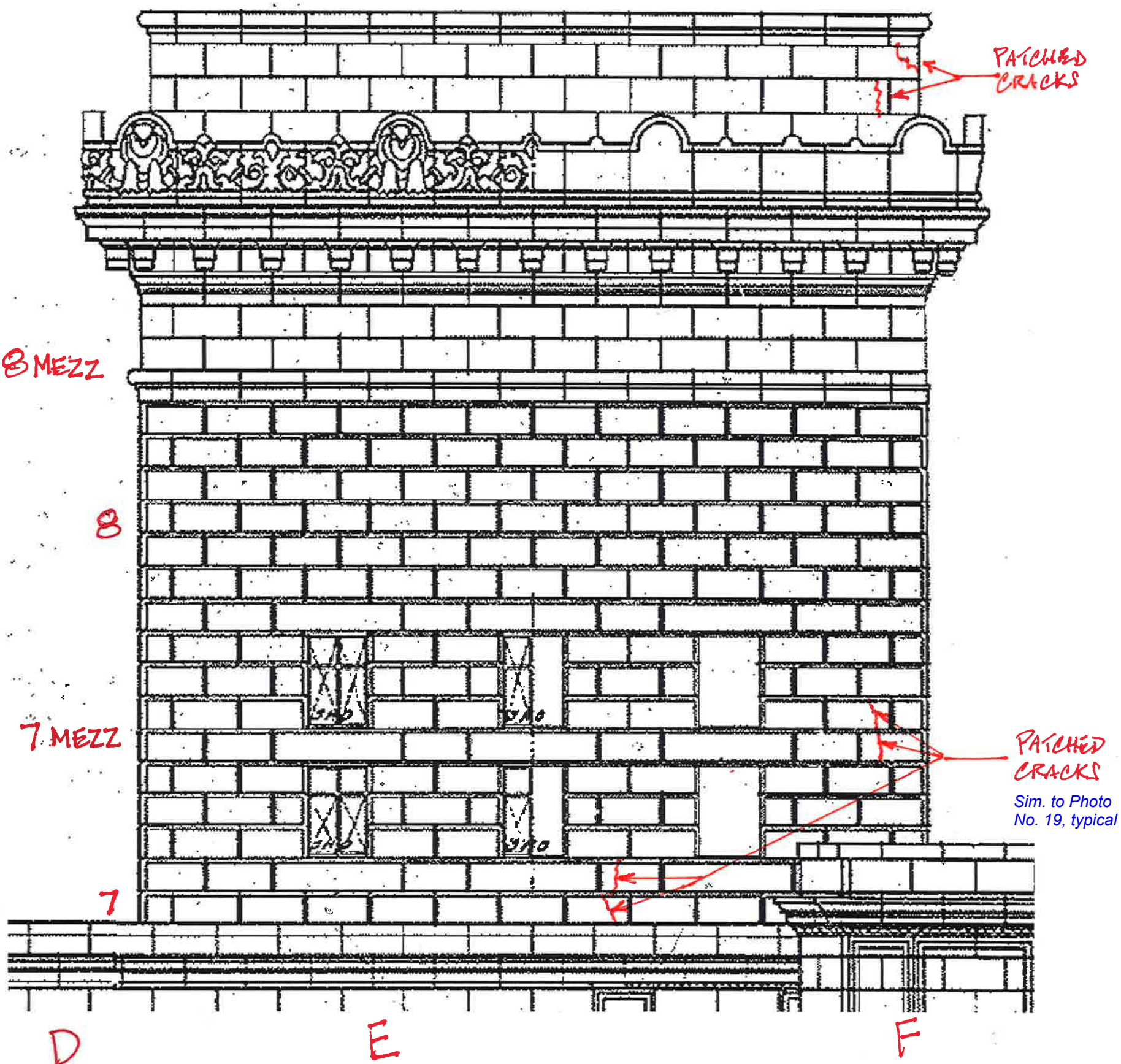
PATCHED CRACK
LOOSE SPALL RIGHT
SIDE OF CRACK
★ INSTALL 2
HELICAL TIES
MRI TIME 1/2 HR

SOUTH ELEVATION

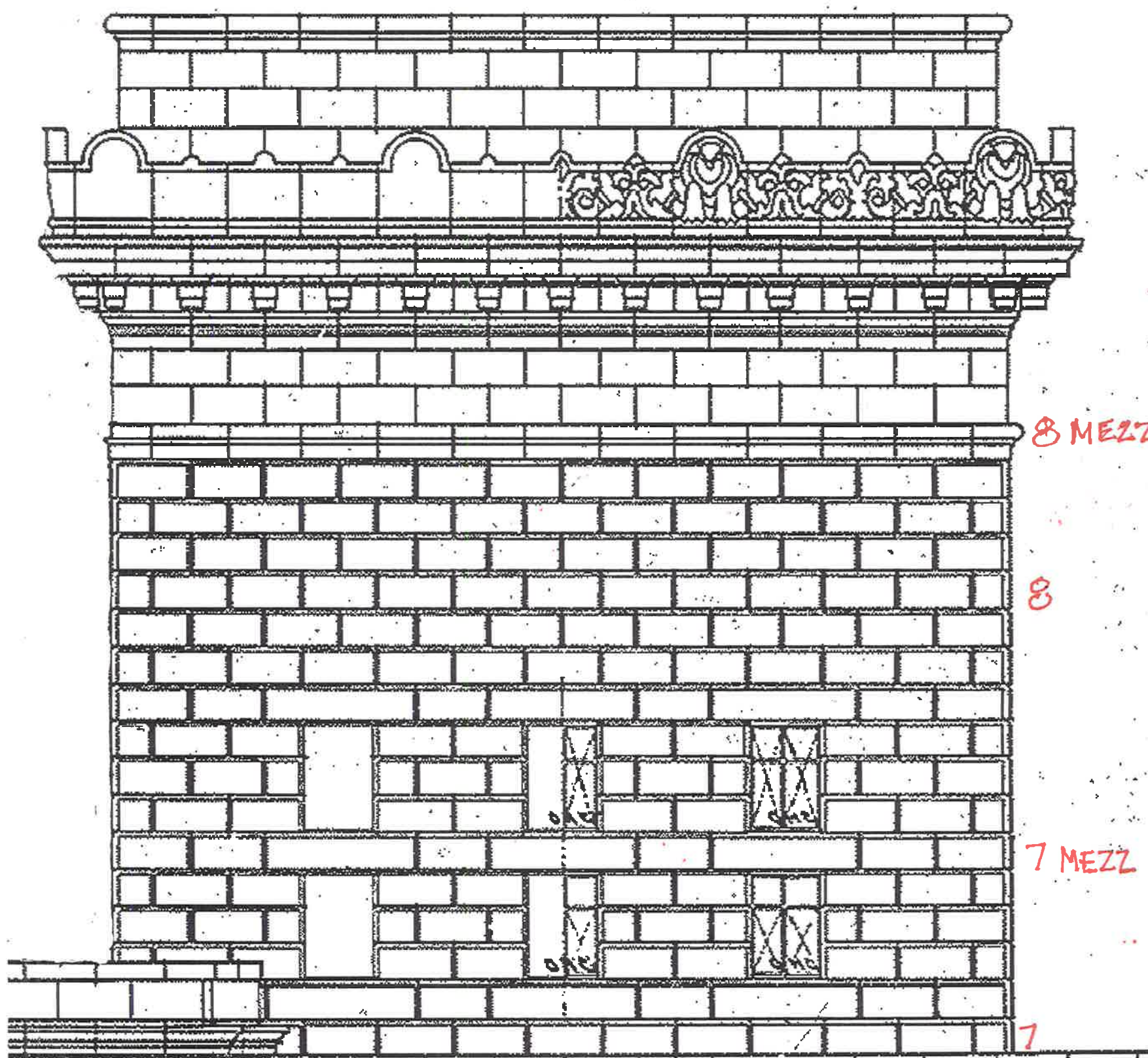
PATCHED CRACKS

7 6 5





WEST ELEVATION



K

L

WEST ELEVATION

APPENDIX D

Representative Photographs

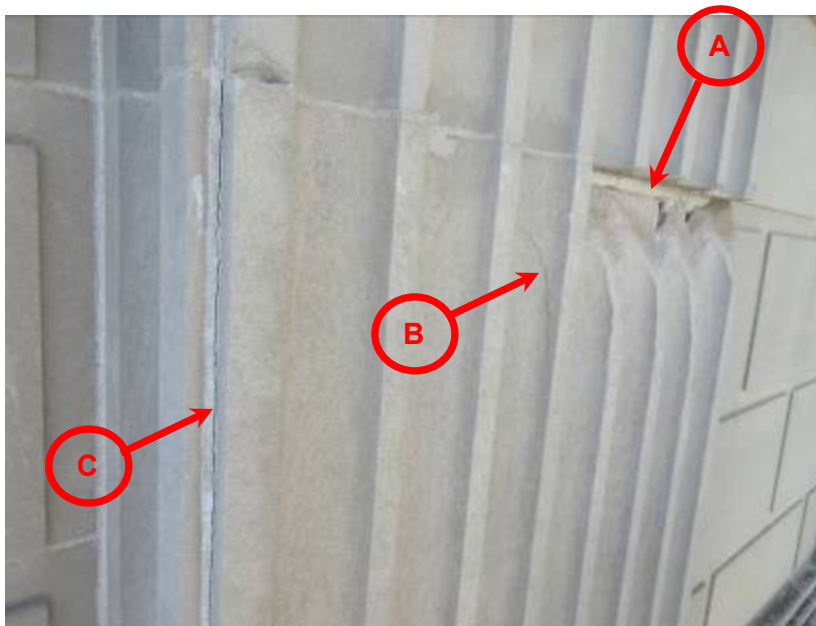


Photo No. 1 (A) Previously removed spall and (B) new cracks in stone unit on Drop #18b. Note (C) separation in mortar joint.



Photo No. 2 Spalls at the eighth floor cornice. Spall was sealed.



Photo No. 3 Spall removed at sixth floor cornice at drop no. 17.



Photo No. 4 Spall removed and open joint sealed at the ashlar base of the building at drop no. 15.



Photo No. 5 View of corroded cramp tie after removal of spall at southeast corner below eighth floor cornice. Cramp and open joints were sealed.



Photo No. 6 Cracking/spalling visible at pier flanking the revolving door entrance at the east elevation.

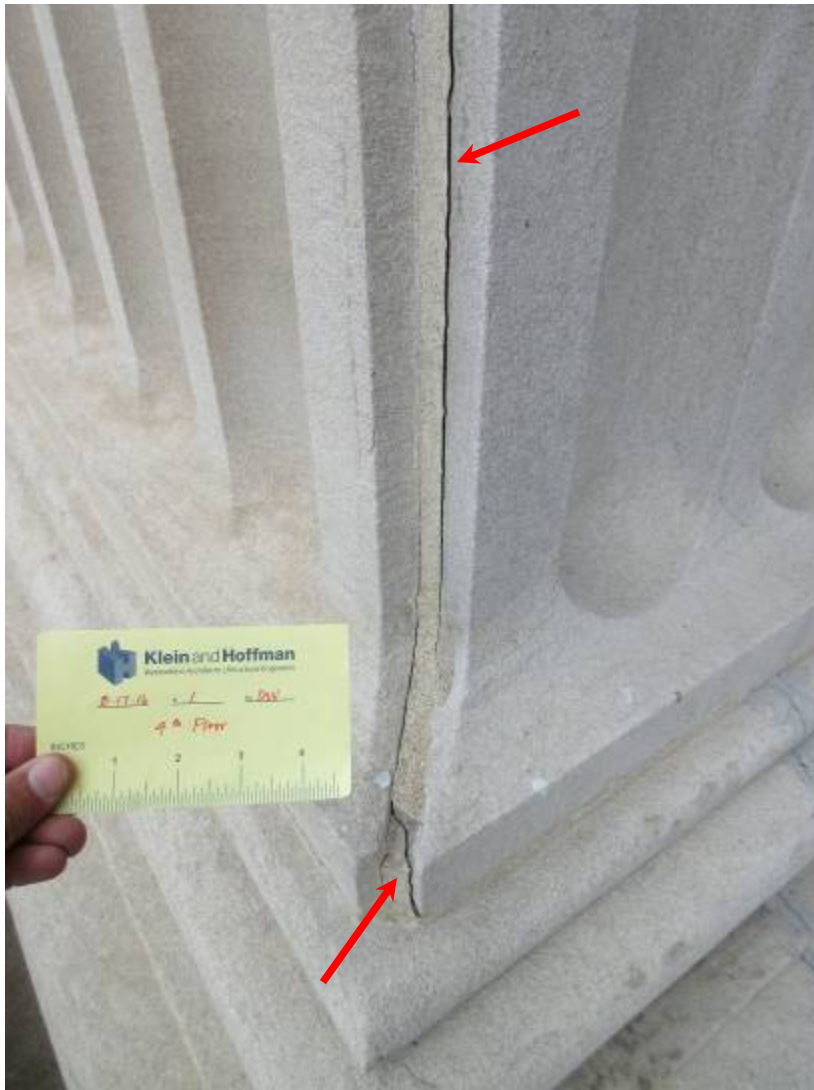


Photo No. 7 Separation in mortar joint caused by ongoing movement of the stone units.

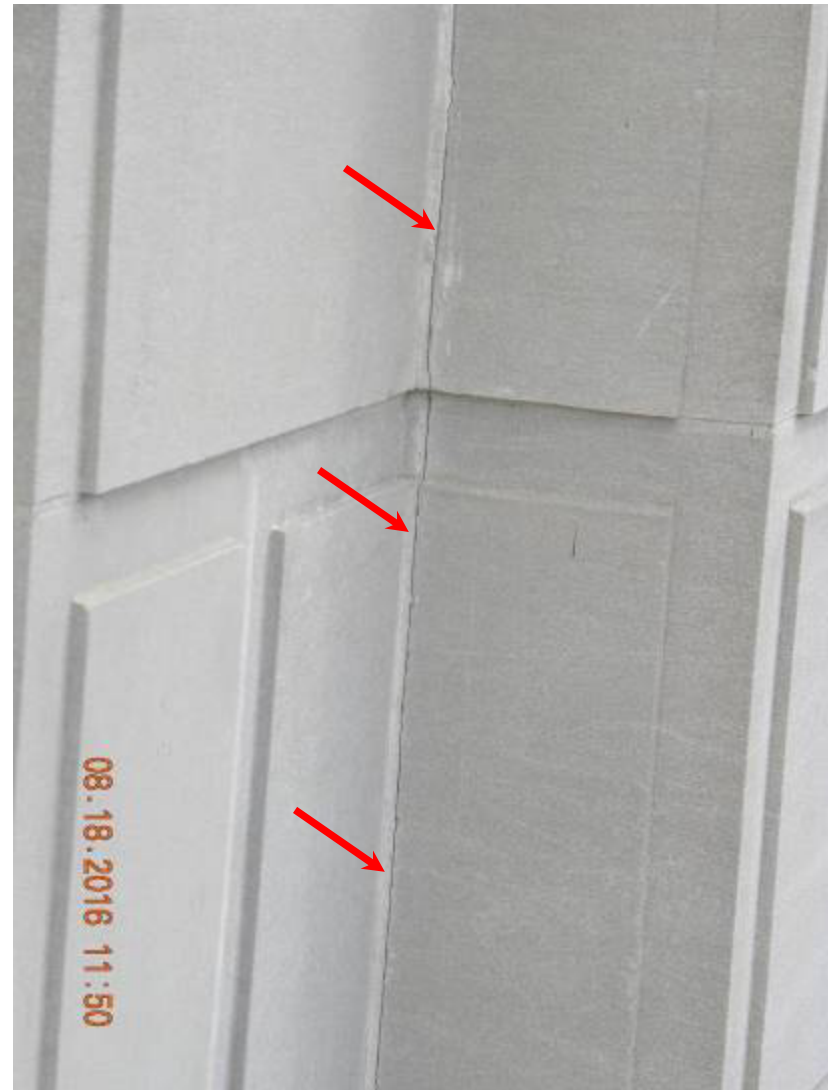


Photo No. 8 Separation in mortar joint caused by ongoing movement of the stone units.



Photo No. 9 View of open joints and shifted masonry at northeast corner parapet.



Photo No. 10 Slight displacement of cornice stone at the southeast corner of the eighth floor cornice is visible. Note failed horizontal sealant joint.



Photo No. 11 Sealed horizontal mortar joint at eighth floor cornice.

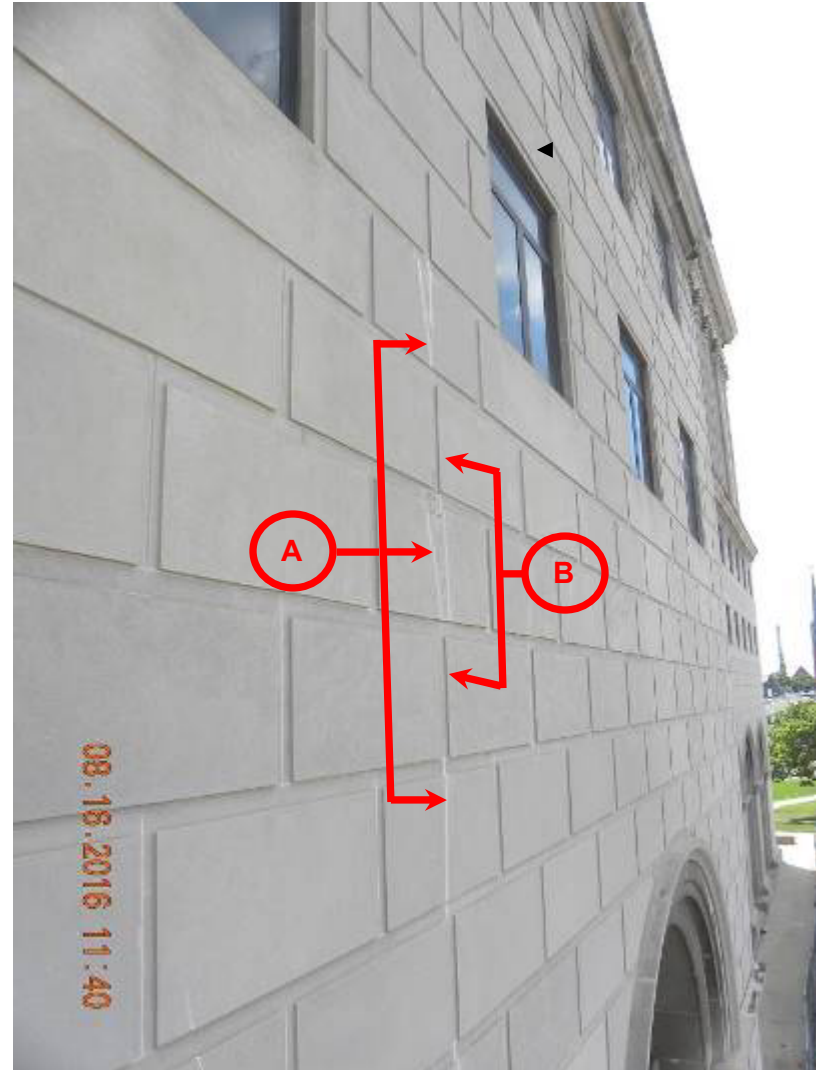


Photo No. 12 Continuous cracks (A) and separations in vertical mortar joints between cracked units (B) indicate ongoing distress within the walls.

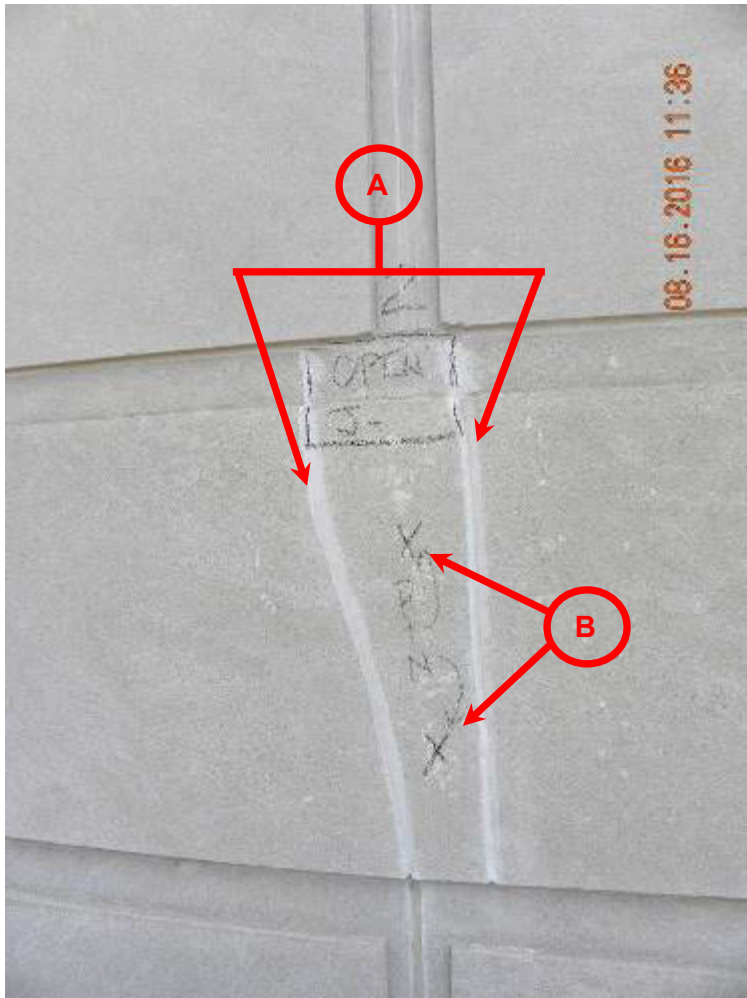


Photo No. 13 Previously patched cracks, with patch material that does not match the stonework, have started to separate (A). The loose portion of that patched stone was designated to be pinned with stainless steel pins as temporary stabilization (B).

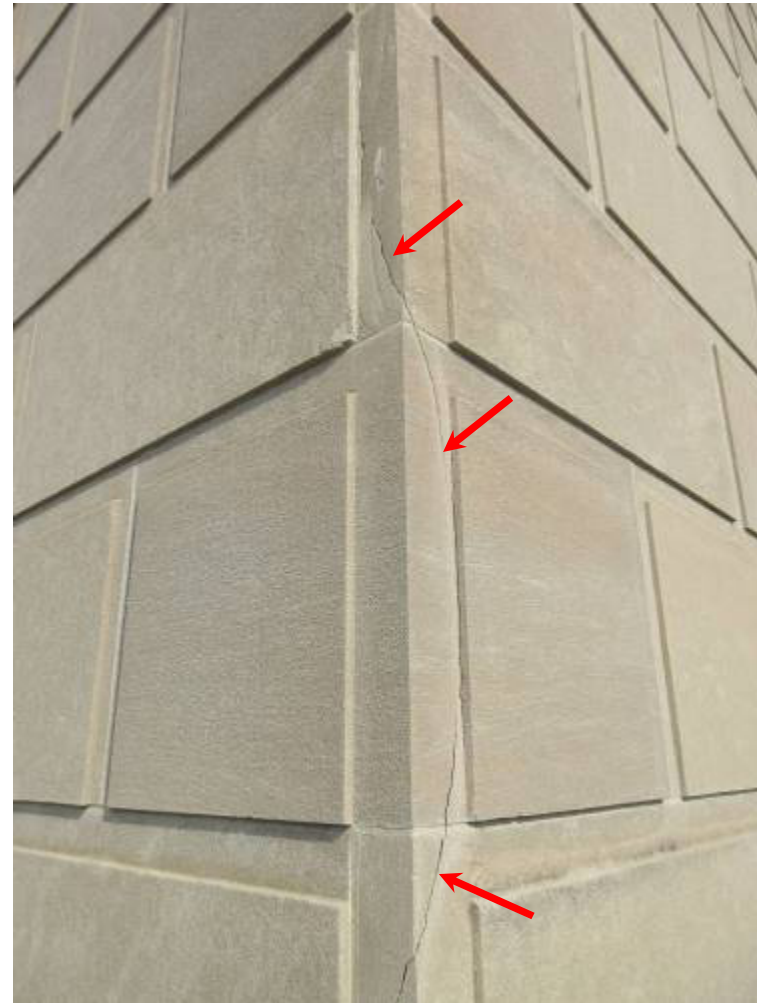


Photo No. 14 Cracked stones at the seventh floor at the southeast corner.

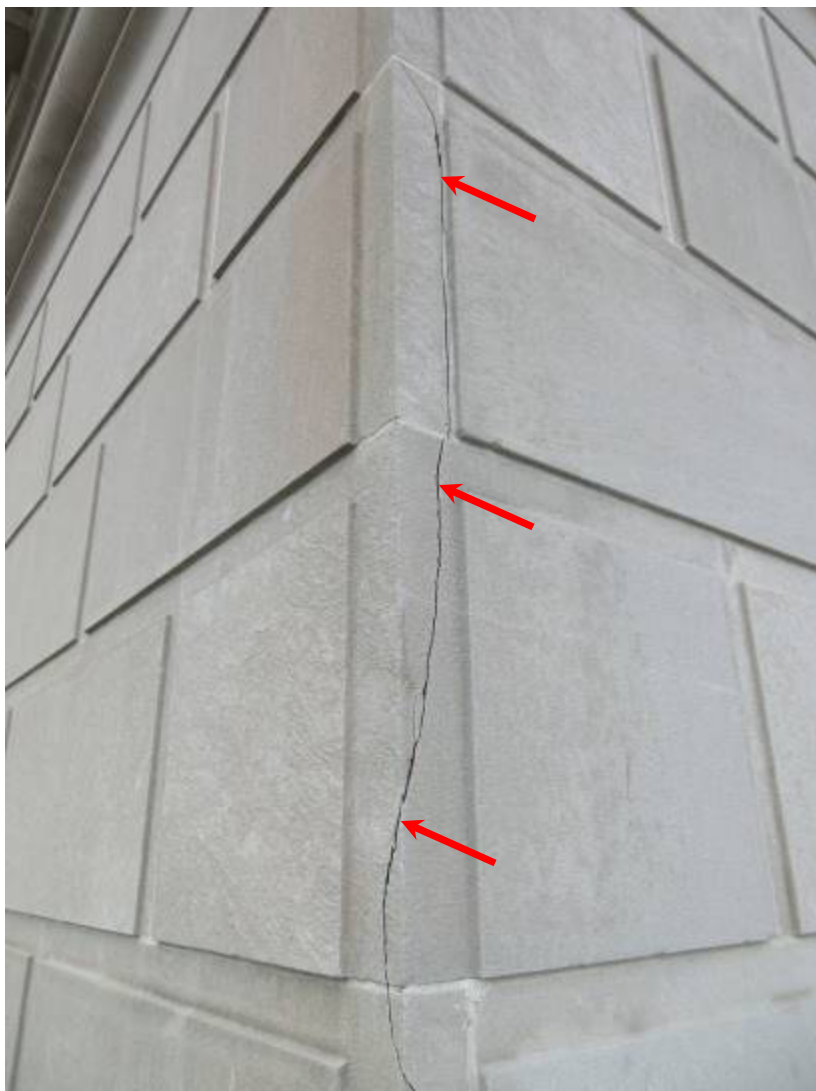


Photo No. 15 Cracked stones at the eighth floor at the northeast corner.



Photo No. 16 Cracked stone at return of ground level arcade.



Photo No. 17 Cracked and delaminated previously applied patch on west elevation, J-K, was designated for removal during our inspections.



Photo No. 18 Removal of defective patch material from previous photo and sealing of openings. No supplemental reinforcing was found in the previous patches removed during our inspections.

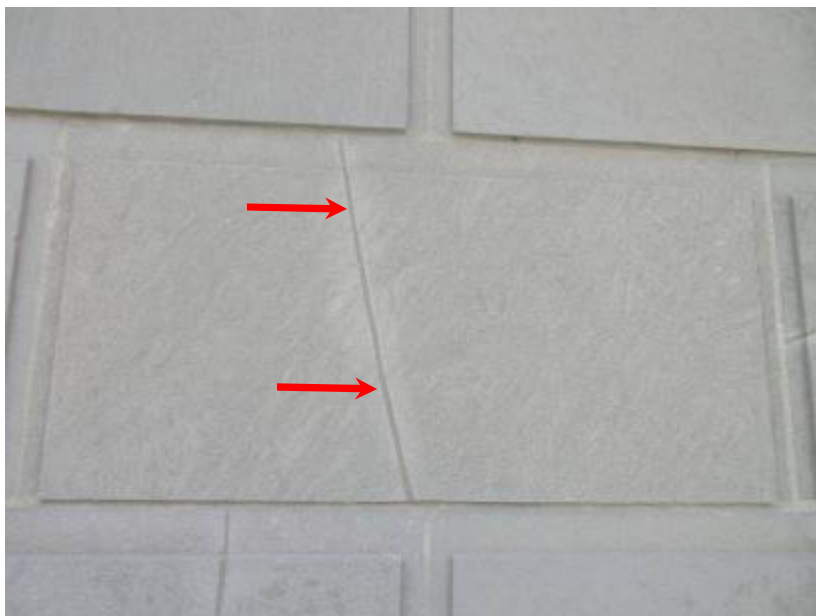


Photo No. 19 Typical previous crack repair in good condition.



Photo No. 20 New cracks developing at previously repaired crack.



Photo No. 21 Previous pin and epoxy repairs at drop no. 10. Pins (A) located on the east face of the wall, epoxied crack (B) located on the south face of the wall.



Photo No. 22 Previous pin and epoxy repair at a dentil at the sixth floor cornice at drop no. 3.



Photo No. 23 Cracked stone at the base of a column at drop no. 14.

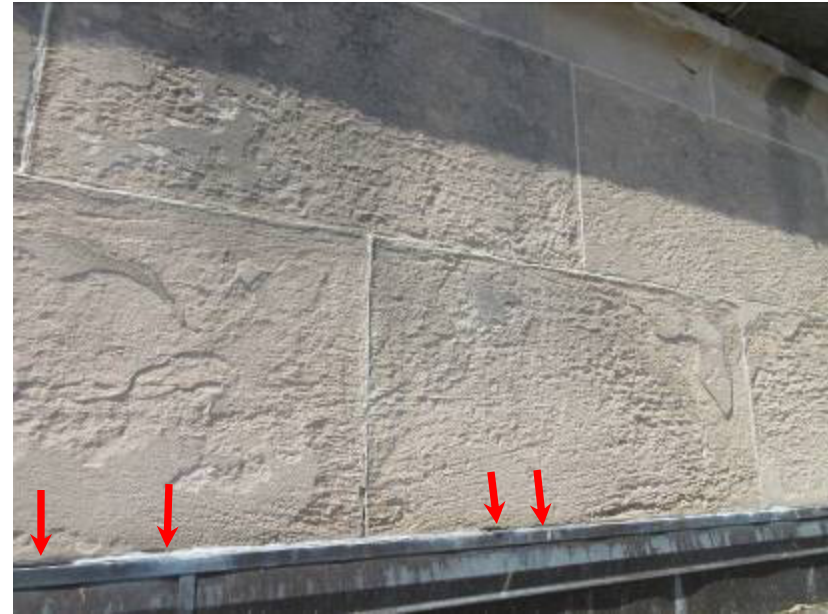


Photo No. 24 Pitted stone surfaces possibly caused by harsh acids allowed to dwell for extended periods on the façades during previous cleaning efforts. Note large voids in the sealant joints at the top of the roof counterflashing.



Photo No. 25 Widespread rust staining on the east elevation likely caused by cleaning chemicals reacting with the iron in the limestone.



Photo No. 26 Weathered stone surface with minor delamination at the eighth floor cornice of the east elevation. Surface delaminations were removed where observed.



Photo No. 27 Showing typical condition of ashlar limestone and mortar joints.



Photo No. 28 Typical deteriorated mortar joint at corner of pilaster.



Photo No. 29 Failed mortar joint at corner of ground level arched opening at drop no. 16.



Photo No. 30 Mortar joint at upper cornice at south end of west elevation in poor condition with open voids and separations.



Photo No. 31 Fairly recently tuck pointed mortar joints do not match the existing mortar joints.



Photo No. 32 Deterioration of the stone surface at the underside of sixth floor cornice.

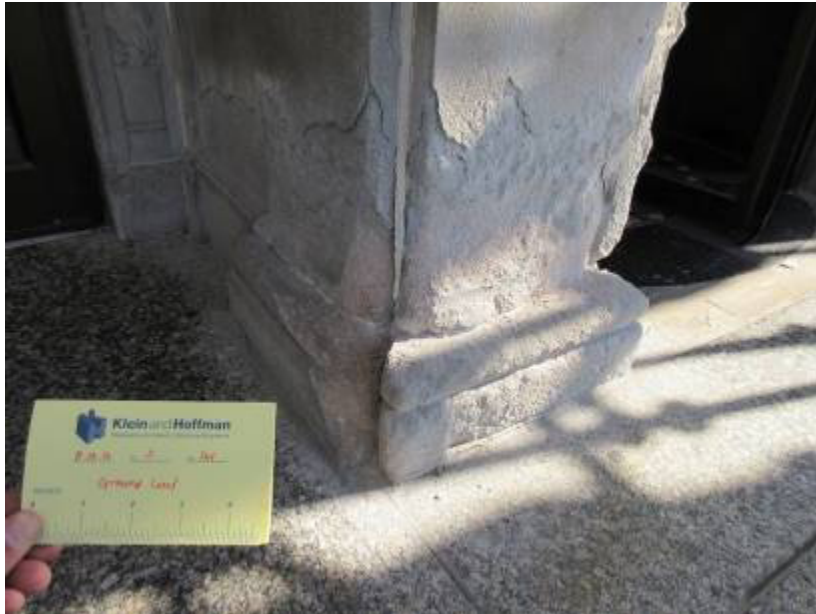


Photo No. 33 Showing significant deterioration of stonework at south entrance.



Photo No. 34 Open sealant joint at base of parapet wall on Drop #3.

Photo Nos. 13 & 14: Aged, failing, and altogether missing sealant (upward facing) joints throughout the façades.



Photo No. 35 Missing sealant joint on 4th floor wash coursing on Drop #17.



Photo No. 36 Fairly large, loose spall removed directly below 4th floor wash coursing, L – M Façade, west elevation.



Photo No. 37 Close-up photo of embedded shelf angle above removed spall in previous photo. Lack of corrosion on the angle indicates that the spall was caused by moisture trapped in the wall during freeze/thaw cycles.



Photo No. 38 Spalled stone caused by corrosion on outer edge of embedded support angle at first floor, Drop 20.

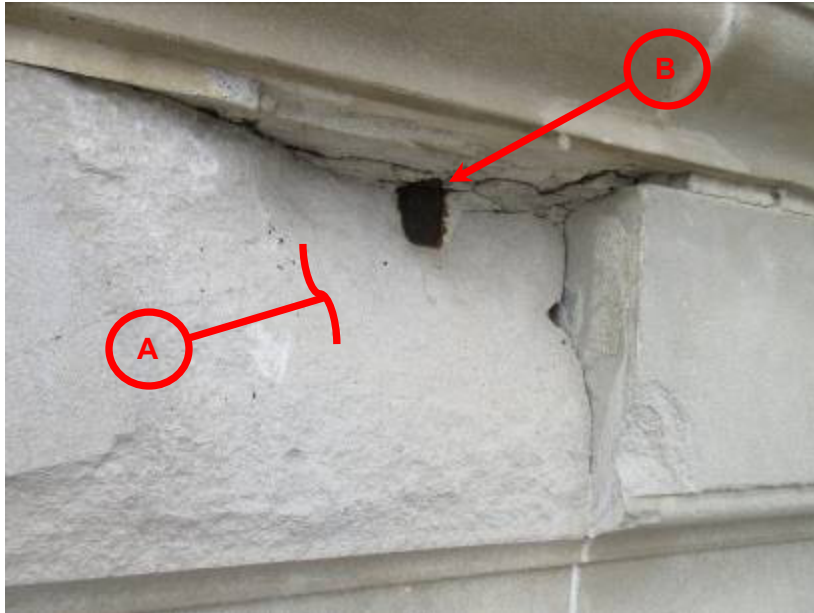


Photo No. 39 (A) Large spalled section of stone caused by corrosion of embedded cramp anchor (B) (lateral tie for the stone) at 6th floor on Drop no. 16.



Photo No. 40 View of epoxy repair at east main entrance at drop no. 12



Photo No. 41 View of typical stone Dutchman repair.



Photo No. 42 Open seam in side of gutter, E – F, west elevation.



Photo No. 43 Open seam in top of gutter at Drop #1.



Photo No. 44 (A) Back-pitched weep hole above gutter at 6th floor, N – P Façades, west elevation. Note deteriorated sealant joint (B).



Photo No. 45 Ponding water in gutter at west end of south elevation. Extends around the corner on the west elevation.



Photo No. 46 Open and deteriorated sealant joints surrounding the metal collector pans at Drop #2 at the 4th floor.



Photo No. 47 Showing typical failed window perimeter sealant joint.



Photo No. 48 Cracked brickwork at the 6th floor level, Drop no. 21, was sealed during inspections.



Photo No. 49 Small crack at sixth floor northeast parapet.



Photo No. 50 Small spall at sixth floor southeast parapet.



Photo No. 51 Multiple spalls and cracks were observed at the sixth floor northeast corner parapet.



Photo no. 52 Showing weathered stone at high roof parapet.



Photo No. 53 View of small spall cause by sheet metal flashing fastener.



Photo No. 54 Showing failed sealant joint at north seventh floor
parapet.



Photo No. 55 View of typical windows on the courthouse façades.



Photo No. 56 View of typical grillage over masonry and windows at the upper floor of the colonnades.



Photo No. 57. East Elevation – showing large set back ornamental windows with faux entry portals at the first floor of the courthouse.



Photo No. 58 Showing original bronze windows at east elevation main entrance.



Photo No. 59 Stainless steel straps installed at southeast corner of seventh floor for stabilization of cracked stones.



Photo No. 60 Stainless steel pins installed at cracked stones at the northeast sixth floor parapet.



Photo No. 61 Spall to be removed. Black "X's" indicate specified locations for installation of pins.

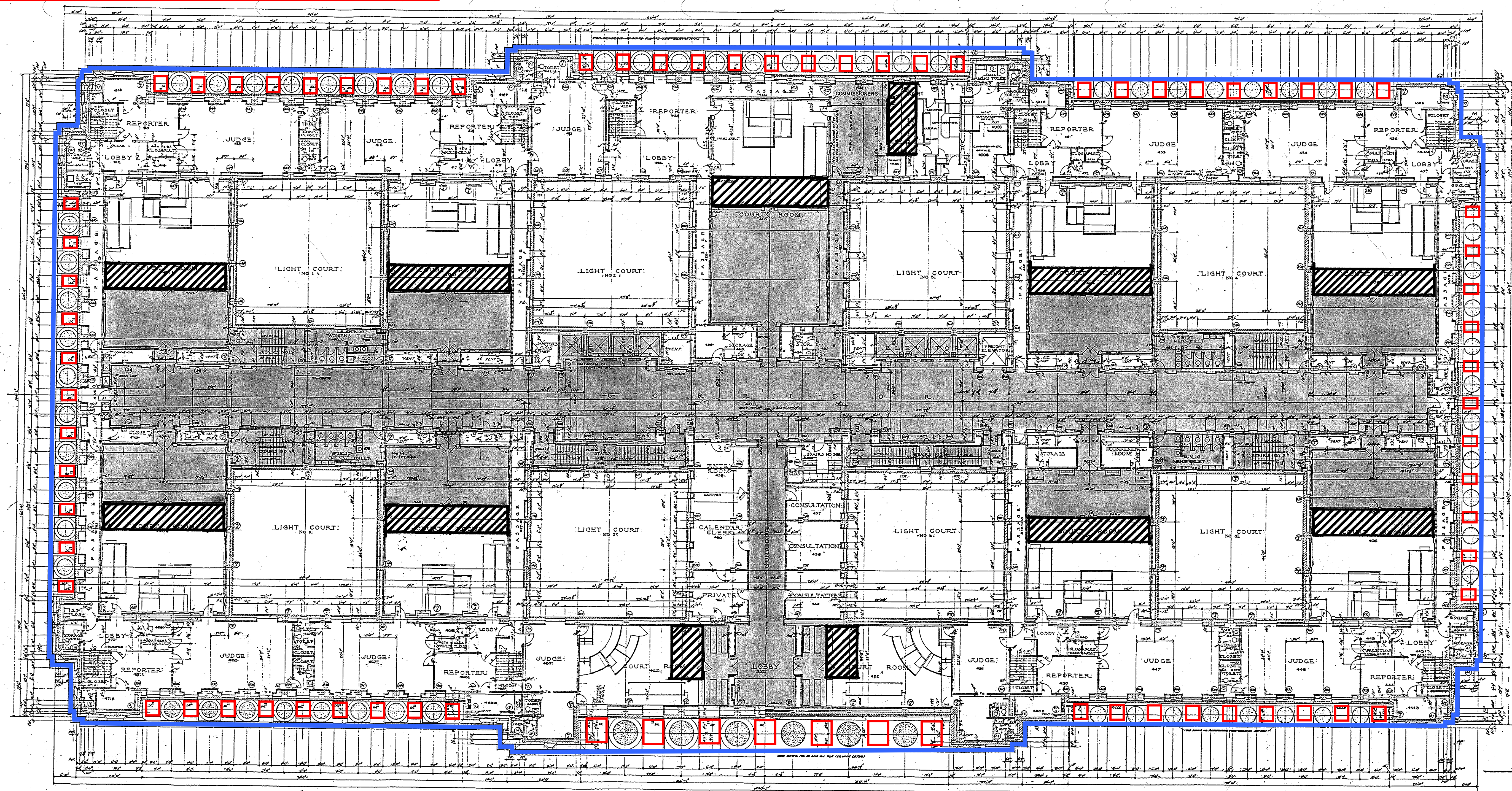


Photo No. 62 Weather cap joint protection installed on the wash joints of the coping stone on Drop #22.

APPENDIX E

Sealant Condition Plans

 Sealants failed at metal roofing perimeter termination bar. See Photo No. 46



: N O T E S :

NORTH HALF OF FOURTH FLOOR PLAN IS SIMILAR
 TO SOUTH HALF EXCEPT AS NOTED IN ROOM
 NUMBERS.
 SOUTH HALF OF FIFTH FLOOR PLAN IS SIMILAR
 TO NORTH HALF EXCEPT AS NOTED IN ROOM
 NUMBERS.
 CORN = YORK, BOOK LIFT AND JANITORS CLOS.
 #477 OCCUR AT SOUTH HALF ONLY.
 SEE SEPARATE FOR CATHEDRAL WINDOWS.
 SEE DETAILS FOR FLUTING OF COLUMNS AND
 PILASTERS.

3) SEE DRAWINGS FOR LEGEND AND ABBREVIATIONS.
4) FOR INTERIOR FINISH SEE SCHEDULE IN SPECIFICATIONS.
5) REFER TO STRUCTURAL AND MECHANICAL DRAWINGS FOR CO-ORDINATION OF WORK.

TABLE OF STAIRS TO JURY ROOMS

4TH FLR. TO 4TH FLR. MEET.		8TH FLR. TO 8TH FLR. MEET.
31	→ SOUTH HALL ←	31A
32		32A
33		33A
34		34A
35		35A
36	← NORTH HALL →	36A
37		37A
38		38A
39		
40		

FOR DETAILS OF ALL COURT
ROOMS AND JUDGE'S ROOMS
SEE DRAWINGS NO. 25, 26, 27
AND 28

10	2/10/82	COMMISSIONER CONWAYMAN @BABA R.R.	
9	1/17/79	UPDATED PLAN	I.E.C.
8	10/16/78	UPDATED	
7	1969	UPDATED PLAN	
6	10/30/68	MOVE RAIL IN COURTYARD 502 508	
5	10/21/67	GATE IN RMS 559 559	
4	12/1/60		
3	7/24/61	CHANGE SHEET #30	
2	12/9/59	—	
1	10/28/58	DIMENSIONS	
NO	GATE		
R E V I S I O N S :			

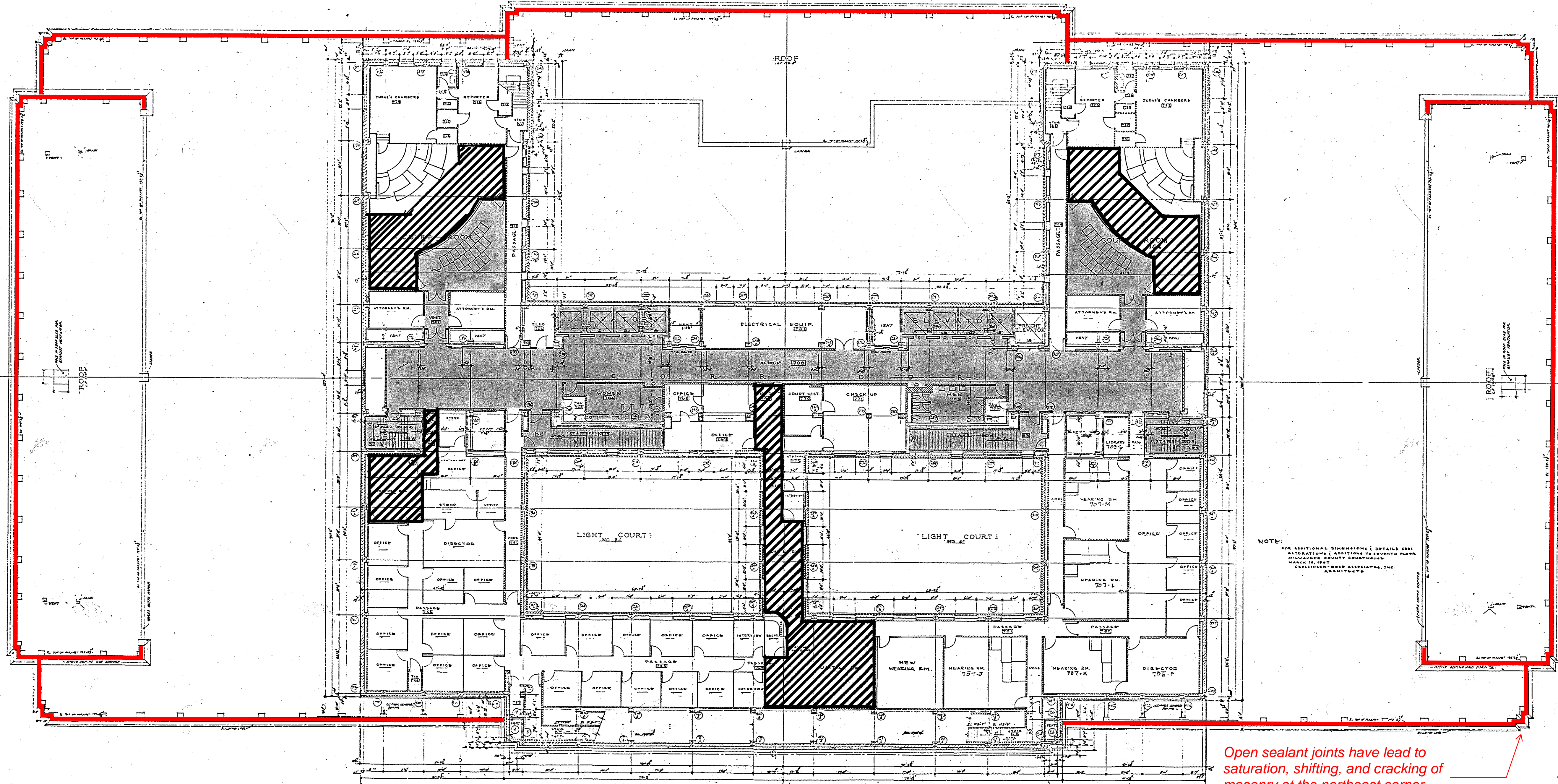
ALBERT RANDOLPH ROSS ARCHITECT.
110 E. WISCONSIN AVE. MILWAUKEE WIS.

PLAN OF FOURTH FLOOR COURTHOUSE
MILWAUKEE COUNTY COURT HOUSE

SCALE NOTE
DO NOT SCALE THIS DRAWING UNLESS
READINGS ARE USED FOR APPROXIMATION.
PLAN SIZE WAS DIMINISHED SLIGHTLY BY
REPRODUCTION FROM ORIGINAL TRACING

SCALE ONE INCH EQUALS EIGHT FEET :
DRAWING NO. 8A
DATE OCTOBER 25, 1928.

Failed wash joint sealants at parapet copings and back of parapets.



Open sealant joints have lead to saturation, shifting, and cracking of masonry at the northeast corner. See Photo nos. 9 and 60.

ALBERT RANDOLPH ROSS ARCHITECT
110 E. WISCONSIN AVE. MILWAUKEE, WIS.

PLAN OF SEVENTH FLOOR
MILWAUKEE COUNTY COURT HOUSE

DIMENSION NOTES:
DO NOT SCALE THIS DRAWING
UNLESS READINGS ARE USED FOR APPROXIMATION
PLAN SIZE HAS DIMENSIONS SLIGHTLY
BY REPRODUCTION FROM ORIGINAL TRACING

SCALE ONE INCH EQUALS EIGHT FEET
DRAWING NO. 12
DATE OCTOBER 15, 1928

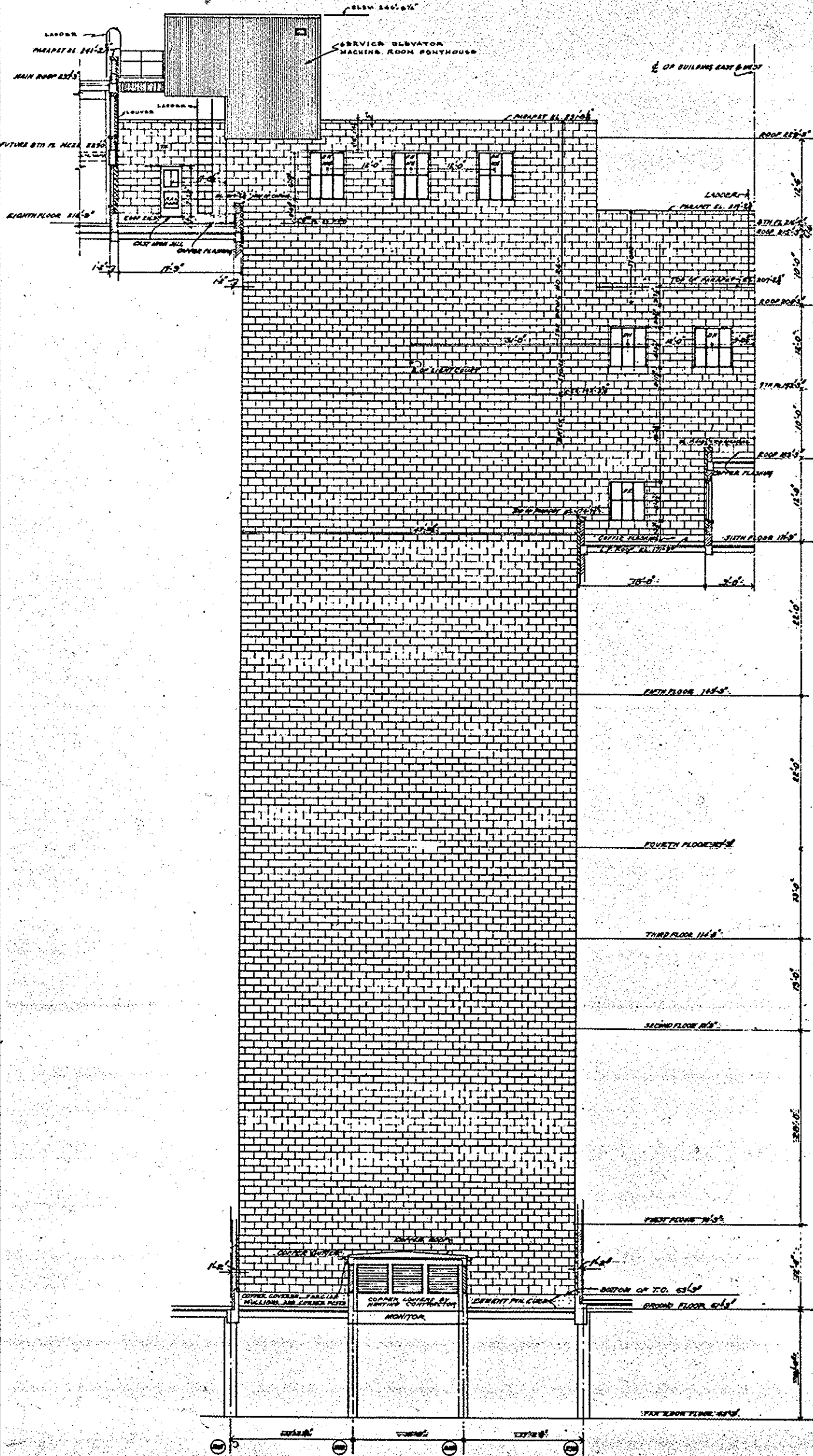
NOTES:
1. FOR ADDITIONAL DIMENSIONS, DETAILS, ETC.,
REFER TO THE ARCHITECT'S OFFICE.
2. FOR ADDITIONAL DIMENSIONS, DETAILS, ETC.,
REFER TO THE ARCHITECT'S OFFICE.

REVISIONS:
1. 11/10/28
2. 11/10/28
3. 11/10/28
4. 11/10/28
5. 11/10/28
6. 11/10/28
7. 11/10/28
8. 11/10/28
9. 11/10/28
10. 11/10/28

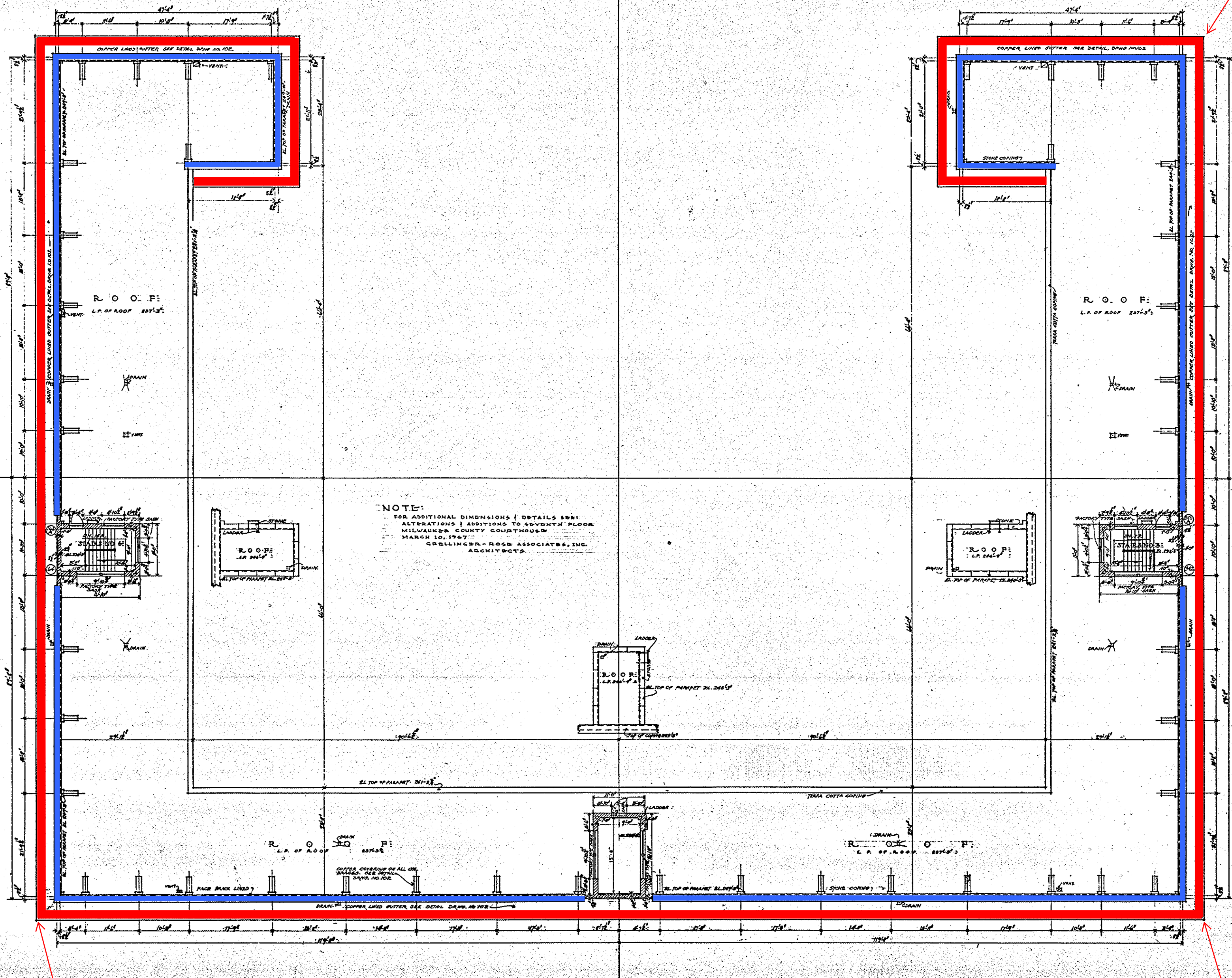
Failed wash joint sealants at stone-to-stone joints and where copper gutter is regletted into stone at 8th floor cornice. See Photo No. 11.

Failed wash joint sealants at parapet copings. Sim. to Photo No. 46.

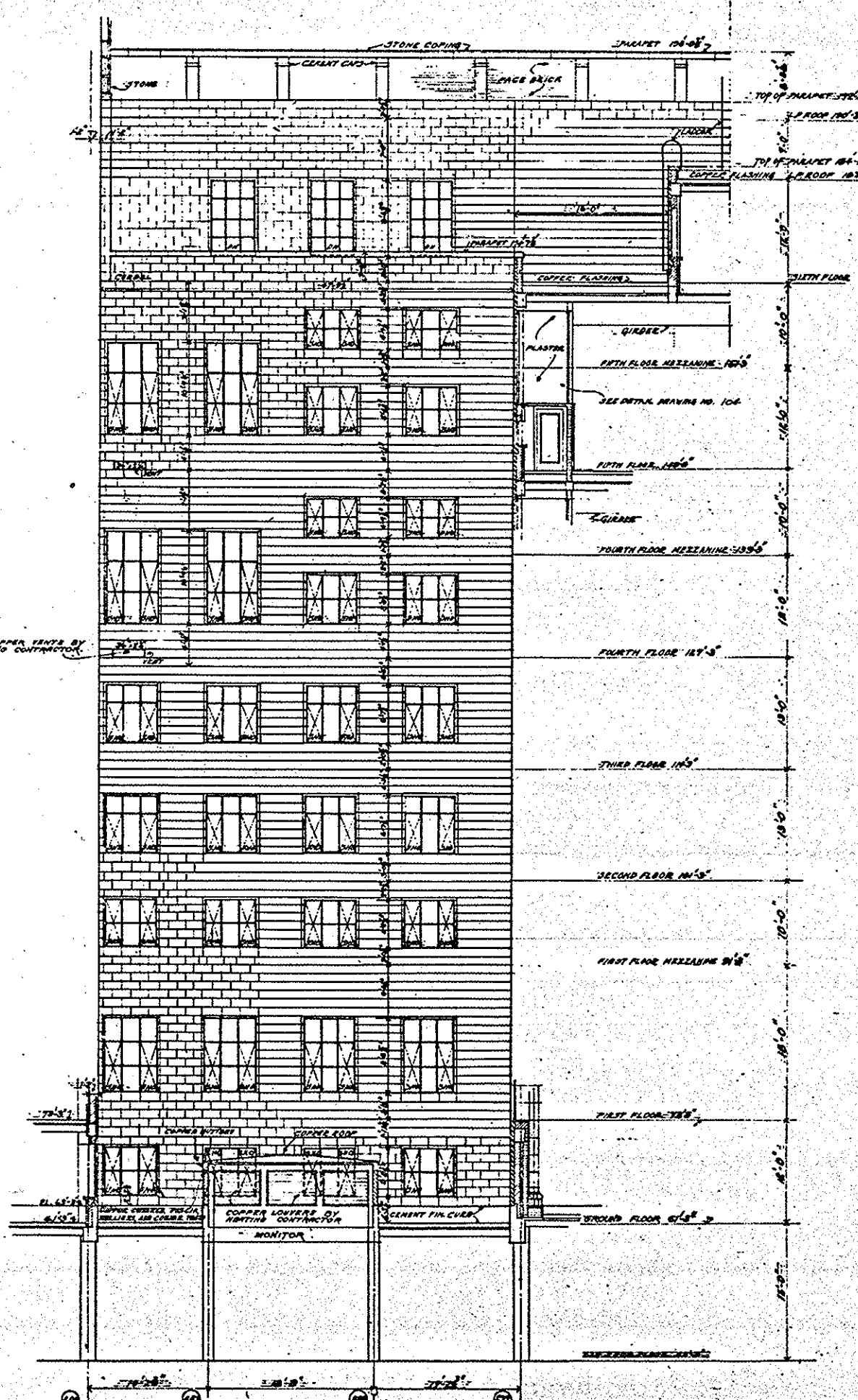
Slight outward displacement and joint separation indicate movement of cornice stones at corner. Sim. to Photo No. 10



LIGHT COURT NO 3 EAST ELEVATION:
LIGHT COURT NO 2 EAST ELEVATION SIMILAR REVERSED



NOTE:
FOR ADDITIONAL DIMENSIONS & DETAILS SEE:
ALTERATIONS & ADDITIONS TO SEVENTH FLOOR
MILWAUKEE COUNTY COURTHOUSE
MARCH 19, 1947
GRIELINGER-ROSS ASSOCIATES, INC.
ARCHITECTS



Joint separation indicates movement of cornice stones at corner. Sim. to Photo No. 10.

NOTES
1) SEE DRAWING NO. 15 FOR DETAILS AND ADDITIONS

NO.	DATE	REVISIONS
1	1970	UPDATED PLAN
2	1970	UPDATED PLAN
3	1970	UPDATED PLAN
4	1970	UPDATED PLAN
5	1970	UPDATED PLAN
6	1970	UPDATED PLAN
7	1970	UPDATED PLAN
8	1970	UPDATED PLAN
9	1970	UPDATED PLAN
10	1970	UPDATED PLAN

ALBERT RANDOLPH ROSS ARCHITECT
110 E WISCONSIN AVE MILWAUKEE WIS

PLAN OF ROOF
MILWAUKEE COUNTY COURTHOUSE

SCALE NOTE
DO NOT SCALE THIS DRAWING UNLESS
READINGS ARE USED FOR APPROXIMATION
PLAN SIZE HAS DIMINISHED SLIGHTLY BY
REPRODUCTION FROM ORIGINAL TRACING

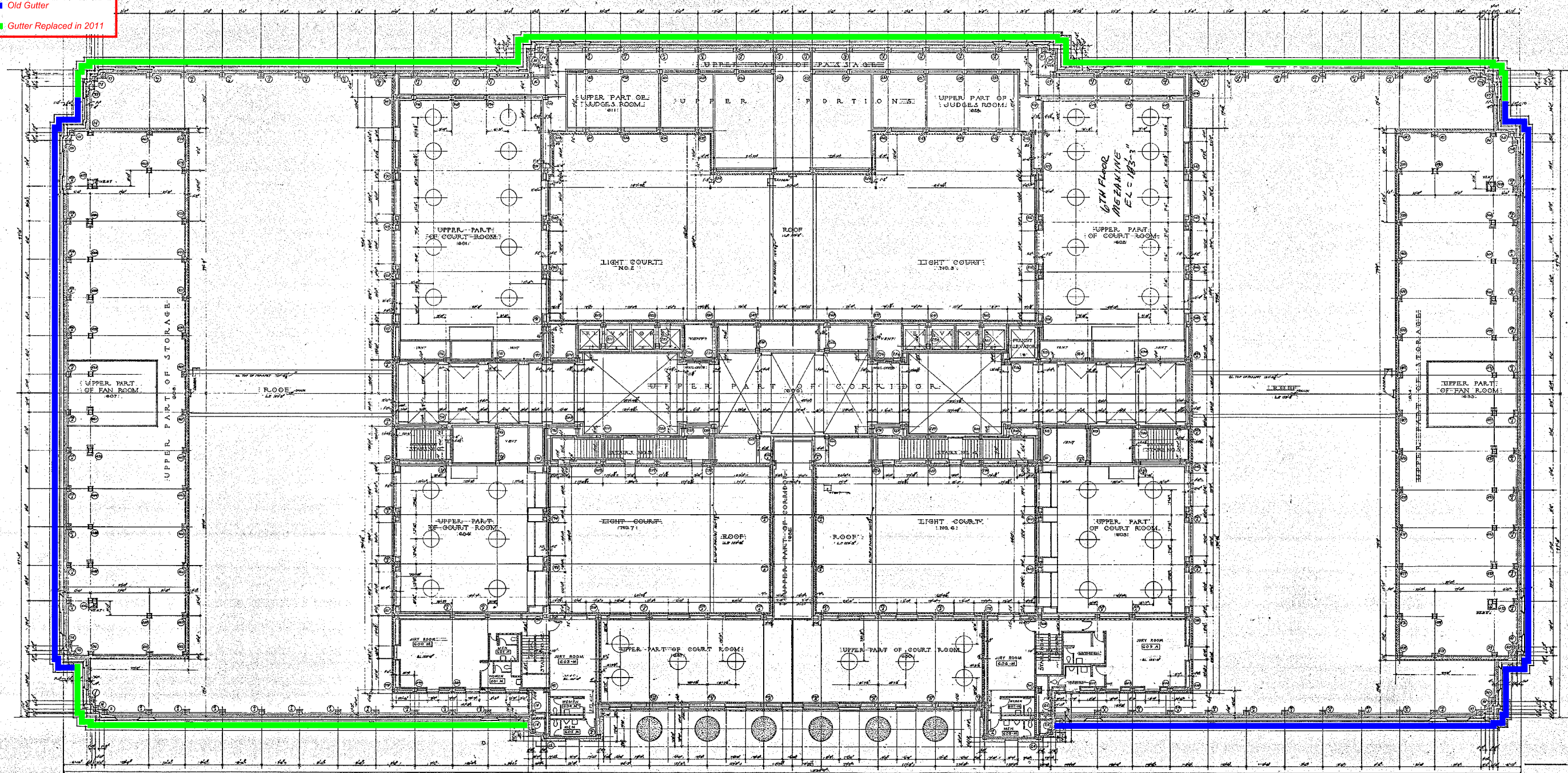
DRAWING NO 16
DATE: OCTOBER 15, 1928

APPENDIX F

Sixth Floor Gutter Condition Plans

Old Gutter
Gutter Replaced in 2011

NOTES:
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR STRUCTURAL STEEL, CONCRETE, AND MASONRY.
2. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR MECHANICAL AND ELECTRICAL SYSTEMS.
3. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE SPECIFICATIONS FOR FINISHES AND MILLWORK.



ALBERT RANDOLPH ROSS, ARCHITECT
110 E. WISCONSIN AVE., MILWAUKEE, WIS.

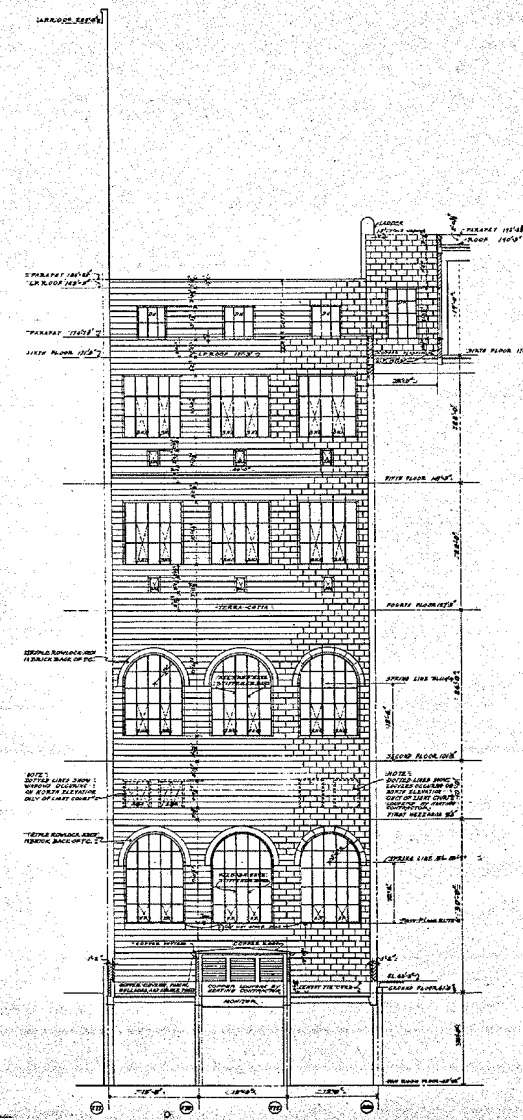
PLAN OF SIXTH FLOOR MEZZANINE
MILWAUKEE COUNTY COURT HOUSE

SCALE NOTE
DO NOT SCALE THIS DRAWING UNLESS
READING IS USED FOR APPROXIMATION
PLAN SIZE HAS DIMENSIONED LENGTH BY
REPRODUCTION FROM ORIGINAL

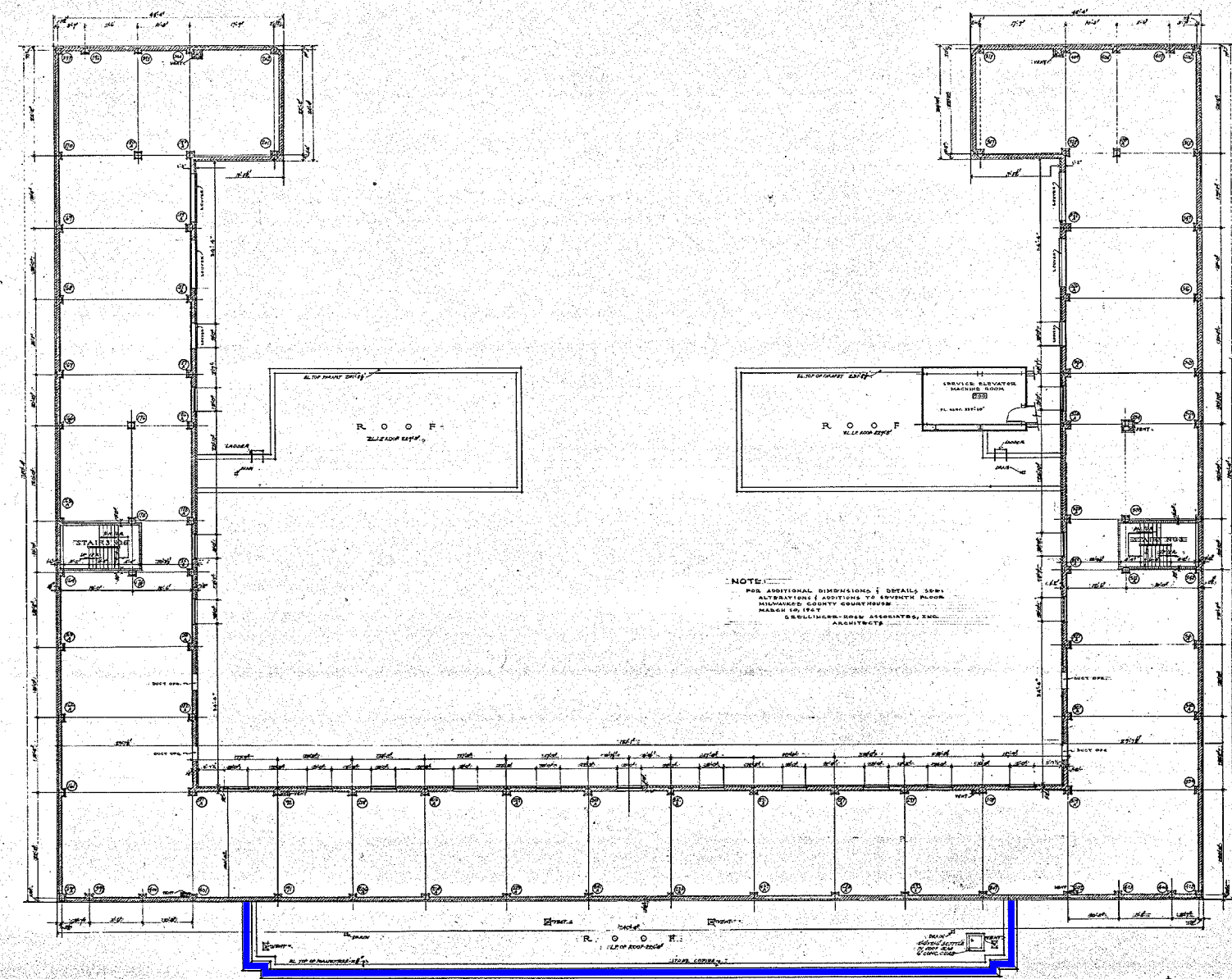
DRAWING NO. 11
DATE OCTOBER 15, 1928

NO.	DATE	REVISION
1	1928	UPDATED PLAN
2	1928	UPDATED
3	1928	UPDATED
4	1928	UPDATED
5	1928	UPDATED
6	1928	UPDATED
7	1928	UPDATED
8	1928	UPDATED
9	1928	UPDATED
10	1928	UPDATED
11	1928	UPDATED
12	1928	UPDATED
13	1928	UPDATED
14	1928	UPDATED
15	1928	UPDATED
16	1928	UPDATED
17	1928	UPDATED
18	1928	UPDATED
19	1928	UPDATED
20	1928	UPDATED
21	1928	UPDATED
22	1928	UPDATED
23	1928	UPDATED
24	1928	UPDATED
25	1928	UPDATED
26	1928	UPDATED
27	1928	UPDATED
28	1928	UPDATED
29	1928	UPDATED
30	1928	UPDATED
31	1928	UPDATED
32	1928	UPDATED
33	1928	UPDATED
34	1928	UPDATED
35	1928	UPDATED
36	1928	UPDATED
37	1928	UPDATED
38	1928	UPDATED
39	1928	UPDATED
40	1928	UPDATED
41	1928	UPDATED
42	1928	UPDATED
43	1928	UPDATED
44	1928	UPDATED
45	1928	UPDATED
46	1928	UPDATED
47	1928	UPDATED
48	1928	UPDATED
49	1928	UPDATED
50	1928	UPDATED
51	1928	UPDATED
52	1928	UPDATED
53	1928	UPDATED
54	1928	UPDATED
55	1928	UPDATED
56	1928	UPDATED
57	1928	UPDATED
58	1928	UPDATED
59	1928	UPDATED
60	1928	UPDATED
61	1928	UPDATED
62	1928	UPDATED
63	1928	UPDATED
64	1928	UPDATED
65	1928	UPDATED
66	1928	UPDATED
67	1928	UPDATED
68	1928	UPDATED
69	1928	UPDATED
70	1928	UPDATED
71	1928	UPDATED
72	1928	UPDATED
73	1928	UPDATED
74	1928	UPDATED
75	1928	UPDATED
76	1928	UPDATED
77	1928	UPDATED
78	1928	UPDATED
79	1928	UPDATED
80	1928	UPDATED
81	1928	UPDATED
82	1928	UPDATED
83	1928	UPDATED
84	1928	UPDATED
85	1928	UPDATED
86	1928	UPDATED
87	1928	UPDATED
88	1928	UPDATED
89	1928	UPDATED
90	1928	UPDATED
91	1928	UPDATED
92	1928	UPDATED
93	1928	UPDATED
94	1928	UPDATED
95	1928	UPDATED
96	1928	UPDATED
97	1928	UPDATED
98	1928	UPDATED
99	1928	UPDATED
100	1928	UPDATED

Old Gutter
Gutter Replaced in 2011

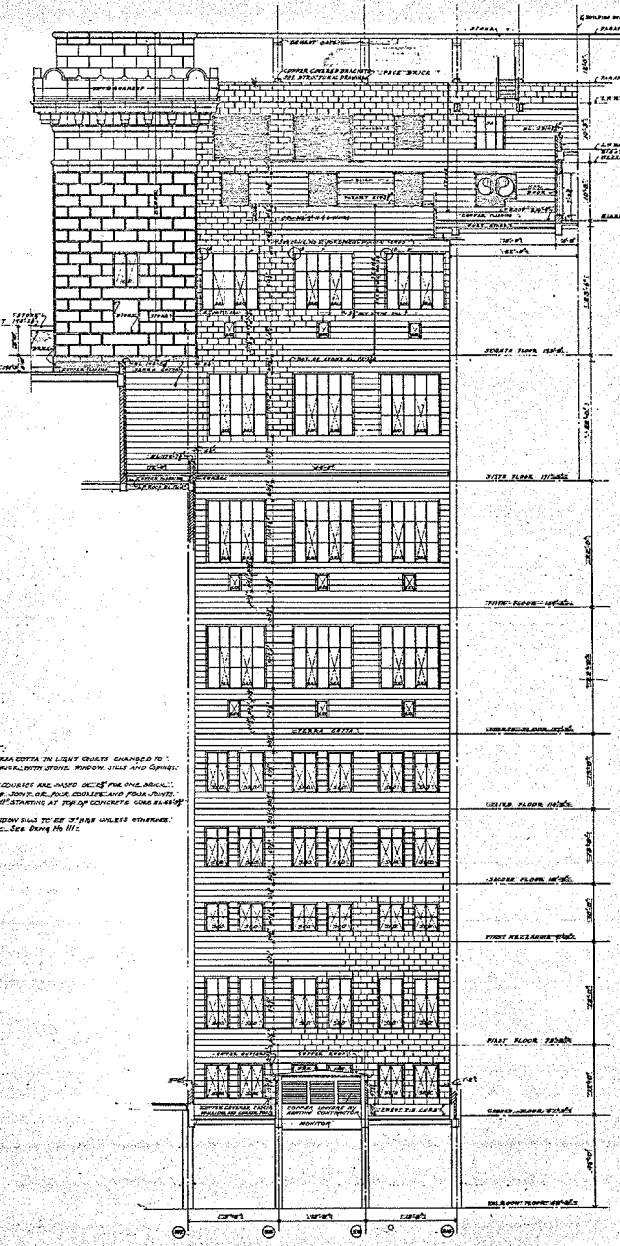


LIGHT COURT NO. 3 SOUTH ELEVATION
LIGHT COURT NO. 2 NORTH ELEVATION SIMILAR REVERSED



NOTE:
FOR ADDITIONAL DIMENSIONS & DETAILS SEE:
ALBERT RANDOLPH ROSS ARCHITECTS
MILWAUKEE COUNTY COURTHOUSE
MARCH 1917
ARCHITECTS

NOTE:
ALL TERRACE COFFIN IN LIGHT COURT CHANGED TO:
TRAP, BRICK, WITH STONE, WINDOW, JULE AND SPINE.
DRIVE COURT ARE CHANGED TO: FIVE FIVE, JULE.
AND ONE, JULE, OF FOUR, COURSE, AND FIVE, JULE.
JULE, STARTING AT TOP OF CONCRETE, ONE FIVE, JULE.
ALL DIMENSIONS TO BE OTHER UNLESS OTHERWISE
SPECIFIED - SEE DRAWING NO. 15.



LIGHT COURT NO. 3 NORTH ELEVATION
LIGHT COURT NO. 2 SOUTH ELEVATION SIMILAR REVERSED

ALBERT RANDOLPH ROSS ARCHITECT
110 E. WISCONSIN AVE. MILWAUKEE WIS.

PLAN OF EIGHTH FLOOR MEZZANINE MILWAUKEE COUNTY COURTHOUSE

SCALE NOTE
DO NOT SCALE THIS DRAWING UNLESS
SPECIALLY NOTED. FOR APPROXIMATION
ONLY SEE THE DIMENSIONS OF THE
REPRODUCTION FROM ORIGINAL DRAWING.

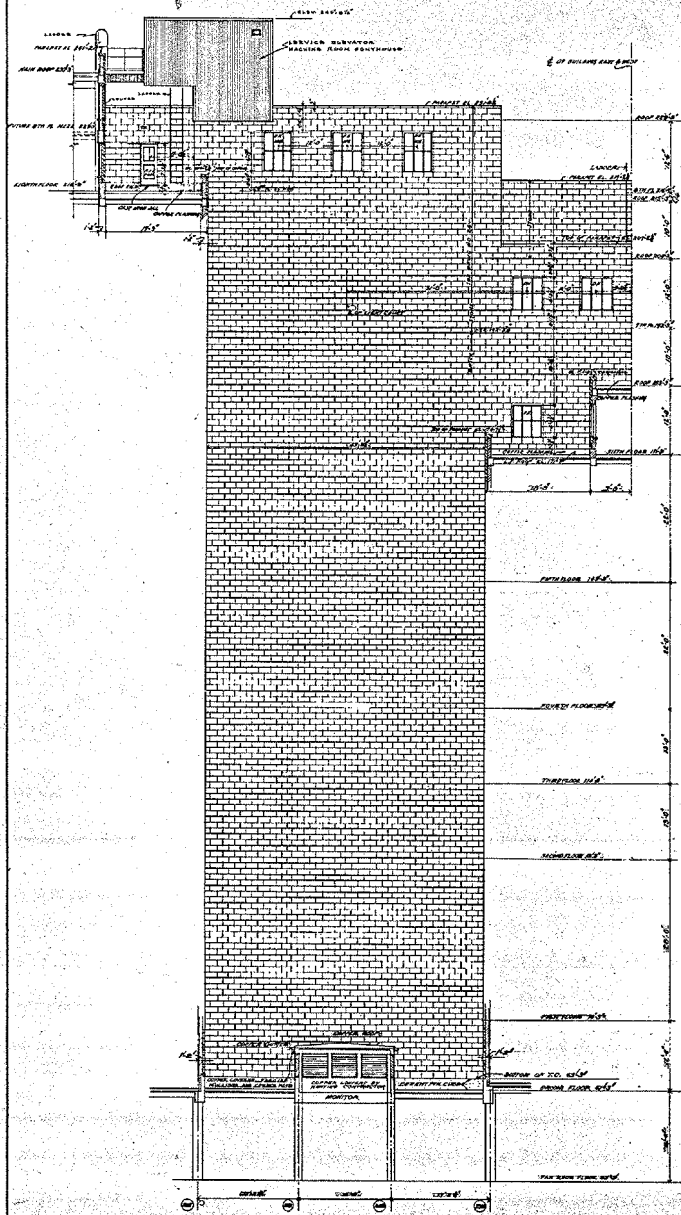
DRAWING NO. 15
DATE: OCTOBER 15, 1926

NOTES

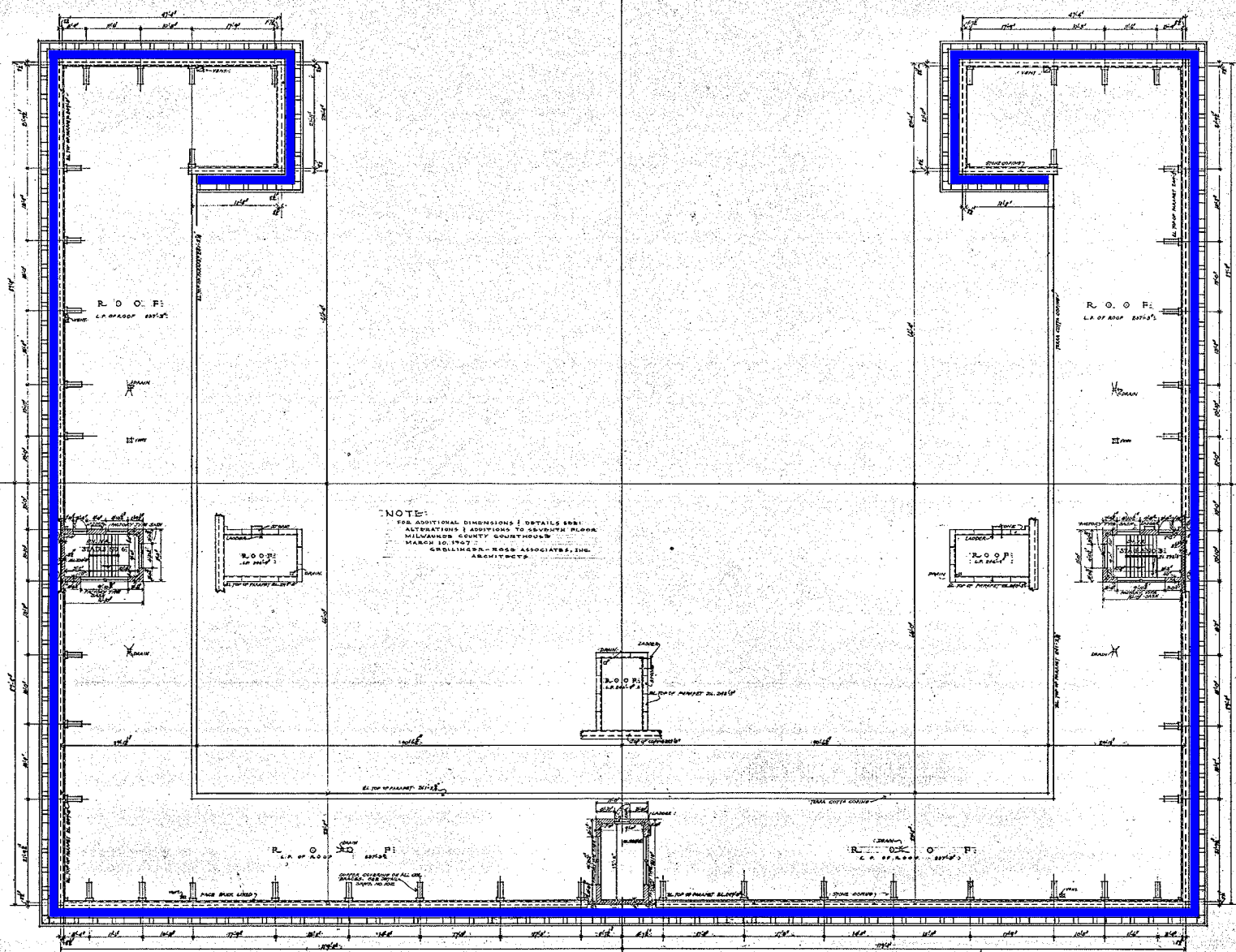
ALL DIMENSIONS TO BE APPROXIMATE UNLESS
SPECIALLY NOTED.
ALL DIMENSIONS TO BE APPROXIMATE UNLESS
SPECIALLY NOTED.
ALL DIMENSIONS TO BE APPROXIMATE UNLESS
SPECIALLY NOTED.

NO.	DATE	DESCRIPTION	BY
1	1917	UPDATED PLAN	R.R.
2	1926	UPDATED PLAN	R.R.
3	1926	STAGE, DRAWING NO. 26	R.R.
4	1926	ONLY DIMENSIONS AT APPROXIMATE ONLY SEE THE DIMENSIONS OF THE REPRODUCTION FROM ORIGINAL DRAWING	R.R.
5	1926	DIMENSIONS	R.R.
6	1926	DIMENSIONS	R.R.

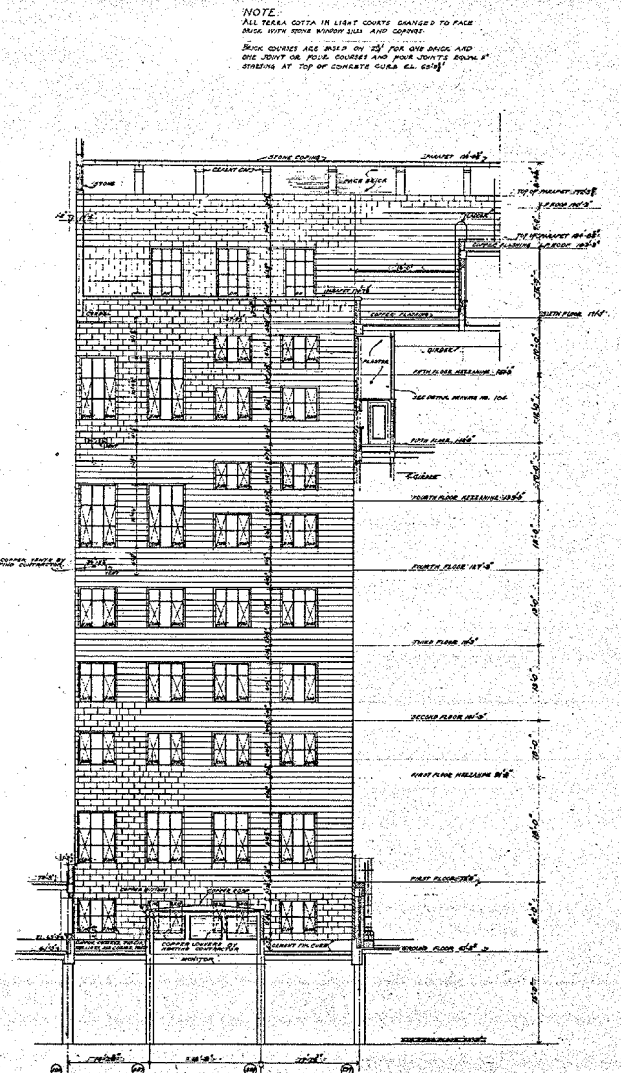
Old Gutter
Gutter Replaced in 2011



LIGHT COURT NO 3 EAST ELEVATION:
LIGHT COURT NO 2 EAST ELEVATION SIMILAR REVERSED



NOTE:
FOR ADDITIONAL DIMENSIONS & DETAILS SEE:
ALTERATIONS & ADDITIONS TO SEVENTH FLOOR
MILWAUKEE COUNTY COURTHOUSE
MARCH 10, 1947
GRALLINGER-ROSS ASSOCIATES, INC.
ARCHITECTS



LIGHT COURT NO 2 WEST ELEVATION

ALBERT RANDOLPH ROSS ARCHITECT
110 E WISCONSIN AVE MILWAUKEE, WIS.

PLAN OF ROOF
MILWAUKEE COUNTY COURT HOUSE

SCALE NOTE
DO NOT SCALE THIS DRAWING UNLESS
READINGS ARE USED FOR APPROXIMATION
PLAN SIZE HAS DIMINISHED SLIGHTLY BY
REPRODUCTION FROM ORIGINAL TRACING

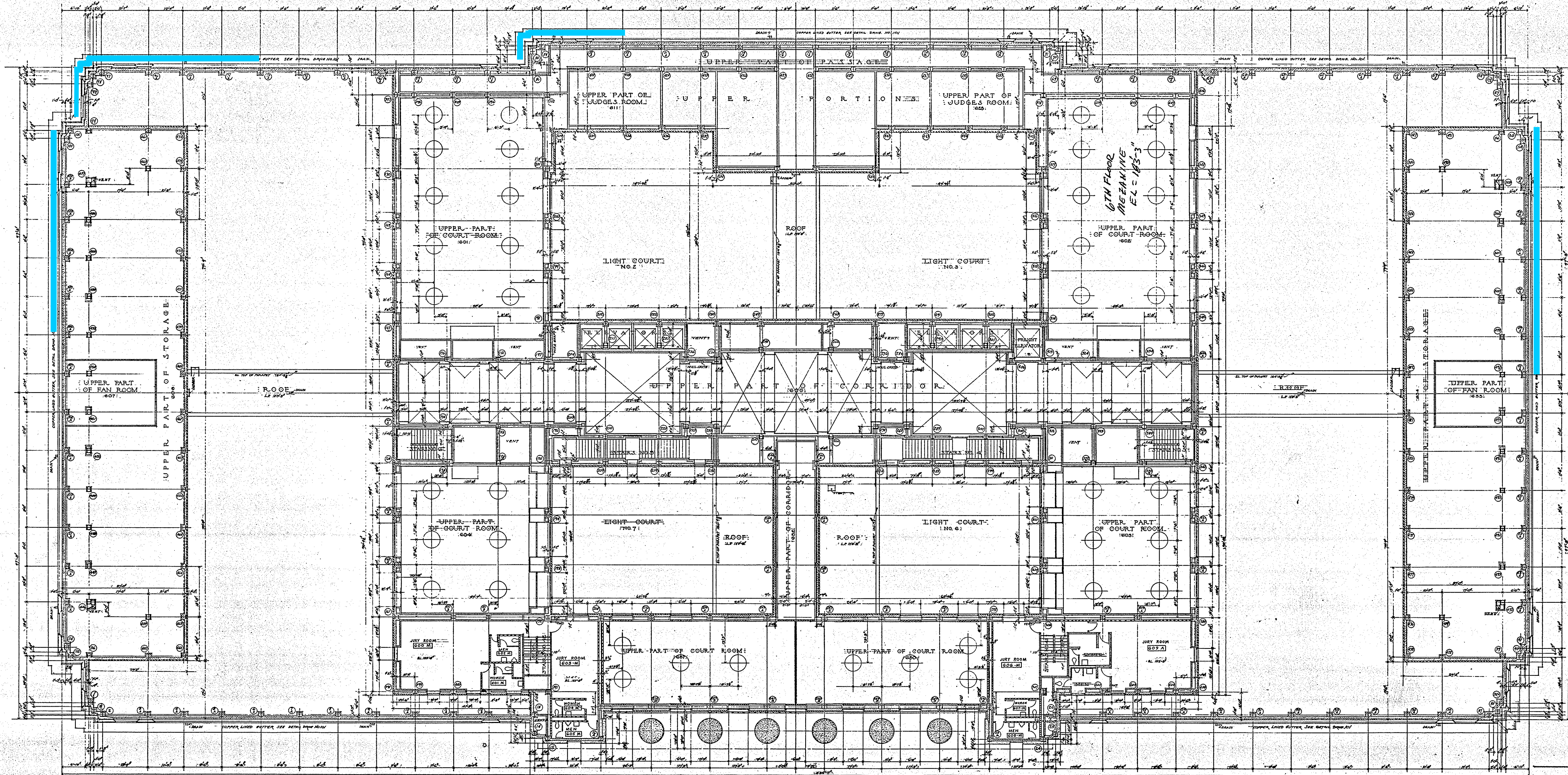
DRAWING NO 16
DATE: OCTOBER 15, 1928

REVISIONS	T.S.R.
1 1929 UPDATED PLAN	
2 1945 UPDATED PLAN	
3 1948 UPDATE DRIVE NO 24	
4 1948 UPDATE DRIVE NO 24	
5 1948 UPDATE DRIVE NO 24	
6 1948 UPDATE DRIVE NO 24	
7 1948 UPDATE DRIVE NO 24	
8 1948 UPDATE DRIVE NO 24	
9 1948 UPDATE DRIVE NO 24	
10 1948 UPDATE DRIVE NO 24	
11 1948 UPDATE DRIVE NO 24	
12 1948 UPDATE DRIVE NO 24	
13 1948 UPDATE DRIVE NO 24	
14 1948 UPDATE DRIVE NO 24	
15 1948 UPDATE DRIVE NO 24	
16 1948 UPDATE DRIVE NO 24	
17 1948 UPDATE DRIVE NO 24	
18 1948 UPDATE DRIVE NO 24	
19 1948 UPDATE DRIVE NO 24	
20 1948 UPDATE DRIVE NO 24	
21 1948 UPDATE DRIVE NO 24	
22 1948 UPDATE DRIVE NO 24	
23 1948 UPDATE DRIVE NO 24	
24 1948 UPDATE DRIVE NO 24	
25 1948 UPDATE DRIVE NO 24	
26 1948 UPDATE DRIVE NO 24	
27 1948 UPDATE DRIVE NO 24	
28 1948 UPDATE DRIVE NO 24	
29 1948 UPDATE DRIVE NO 24	
30 1948 UPDATE DRIVE NO 24	
31 1948 UPDATE DRIVE NO 24	
32 1948 UPDATE DRIVE NO 24	
33 1948 UPDATE DRIVE NO 24	
34 1948 UPDATE DRIVE NO 24	
35 1948 UPDATE DRIVE NO 24	
36 1948 UPDATE DRIVE NO 24	
37 1948 UPDATE DRIVE NO 24	
38 1948 UPDATE DRIVE NO 24	
39 1948 UPDATE DRIVE NO 24	
40 1948 UPDATE DRIVE NO 24	
41 1948 UPDATE DRIVE NO 24	
42 1948 UPDATE DRIVE NO 24	
43 1948 UPDATE DRIVE NO 24	
44 1948 UPDATE DRIVE NO 24	
45 1948 UPDATE DRIVE NO 24	
46 1948 UPDATE DRIVE NO 24	
47 1948 UPDATE DRIVE NO 24	
48 1948 UPDATE DRIVE NO 24	
49 1948 UPDATE DRIVE NO 24	
50 1948 UPDATE DRIVE NO 24	
51 1948 UPDATE DRIVE NO 24	
52 1948 UPDATE DRIVE NO 24	
53 1948 UPDATE DRIVE NO 24	
54 1948 UPDATE DRIVE NO 24	
55 1948 UPDATE DRIVE NO 24	
56 1948 UPDATE DRIVE NO 24	
57 1948 UPDATE DRIVE NO 24	
58 1948 UPDATE DRIVE NO 24	
59 1948 UPDATE DRIVE NO 24	
60 1948 UPDATE DRIVE NO 24	
61 1948 UPDATE DRIVE NO 24	
62 1948 UPDATE DRIVE NO 24	
63 1948 UPDATE DRIVE NO 24	
64 1948 UPDATE DRIVE NO 24	
65 1948 UPDATE DRIVE NO 24	
66 1948 UPDATE DRIVE NO 24	
67 1948 UPDATE DRIVE NO 24	
68 1948 UPDATE DRIVE NO 24	
69 1948 UPDATE DRIVE NO 24	
70 1948 UPDATE DRIVE NO 24	
71 1948 UPDATE DRIVE NO 24	
72 1948 UPDATE DRIVE NO 24	
73 1948 UPDATE DRIVE NO 24	
74 1948 UPDATE DRIVE NO 24	
75 1948 UPDATE DRIVE NO 24	
76 1948 UPDATE DRIVE NO 24	
77 1948 UPDATE DRIVE NO 24	
78 1948 UPDATE DRIVE NO 24	
79 1948 UPDATE DRIVE NO 24	
80 1948 UPDATE DRIVE NO 24	
81 1948 UPDATE DRIVE NO 24	
82 1948 UPDATE DRIVE NO 24	
83 1948 UPDATE DRIVE NO 24	
84 1948 UPDATE DRIVE NO 24	
85 1948 UPDATE DRIVE NO 24	
86 1948 UPDATE DRIVE NO 24	
87 1948 UPDATE DRIVE NO 24	
88 1948 UPDATE DRIVE NO 24	
89 1948 UPDATE DRIVE NO 24	
90 1948 UPDATE DRIVE NO 24	
91 1948 UPDATE DRIVE NO 24	
92 1948 UPDATE DRIVE NO 24	
93 1948 UPDATE DRIVE NO 24	
94 1948 UPDATE DRIVE NO 24	
95 1948 UPDATE DRIVE NO 24	
96 1948 UPDATE DRIVE NO 24	
97 1948 UPDATE DRIVE NO 24	
98 1948 UPDATE DRIVE NO 24	
99 1948 UPDATE DRIVE NO 24	
100 1948 UPDATE DRIVE NO 24	

NOTES

NOTE
ALL TERRACE COTTA IN LIGHT COURTS DRAINED TO FACE
AND WITH 1/2" SLOPE TOWARD SILL AND GUTTER
BRICK GUTTERS ARE 12" ON 12" FOR ONE BRICK AND
ONE JOINT ON FOUR COURTES AND WITH JOINTS 1/2" ON 1/2"
DRAINING AT TOP OF CONCRETE CURB EL. 60.1

 *Ponding water observed at built-in gutter. See Photo No. 45.*



NOTES:

- A. ALL INTERIOR COLUMNS TO BE AIRSPRACED WITH 1/2" TC BLOCK.
- B. SEE DRAWING NO'S FOR LEGEND AND ABBREVIATIONS.
- C. REFER TO INTERIOR FINISH SEE SCHEDULE IN SPECIFICATIONS.
- D. REFER TO STRUCTURAL AND MECHANICAL DRAWINGS FOR CO-ORDINATION OF WORK.

ALBERT RANDOLPH ROSS ARCHITECTS
110 E. WISCONSIN AVE. MILWAUKEE WIS.

PLAN OF SIXTH FLOOR MEZZANINE
MILWAUKEE COUNTY COURTHOUSE

SCALE NOTE
DO NOT SCALE THIS DRAWING UNLESS
READINGS ARE USED FOR APPROXIMATION
PLAN SIZE HAS DIMINISHED SLIGHTLY BY
REPRODUCTION FROM ORIGINAL
TRACING

DRAWING NO. 11
DATE OCTOBER 15 1928.